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Practitioners' and Students'
MANUAL OF
SURGERY.

E. C. Franklin, M. D.

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THE SCIENCE OF SURGERY,
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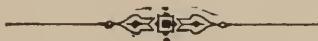
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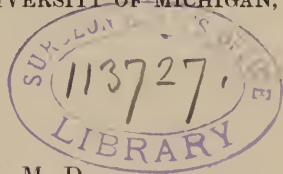
E. C. FRANKLIN, M. D.,

AUTHOR OF THE SCIENCE AND ART OF SURGERY, A MONOGRAPH ON SPINAL CURVATURES, A COMPLETE TREATISE ON MINOR SURGERY, &c. BRIGADE SURGEON OF VOLUNTEERS DURING THE REBELLION, PROFESSOR OF SURGERY IN THE HOMŒOPATHIC COLLEGE OF MISSOURI, SURGEON TO THE GOOD SAMARITAN HOSPITAL, ST. LOUIS, MISSOURI, EX-PRESIDENT OF THE AMERICAN INSTITUTE OF HOMŒOPATHY, EX-PRESIDENT OF WESTERN ACADEMY OF HOMŒOPATHY, AND PROFESSOR OF SURGERY AND CLINICAL SURGERY IN THE HOMŒOPATHIC COLLEGE, UNIVERSITY OF MICHIGAN, &c., &c.



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TO

I. N. ELDRIDGE, M. D., AND A. I. SAWYER, M. D.,

MEMBERS OF THE "EXAMINING BOARD" OF THE

HOMOEOPATHIC COLLEGE, UNIVERSITY OF MICHIGAN,

AS A TRIBUTE TO THEIR LIFE-LONG DEVOTION TO

THE CAUSE OF HOMŒOPATHY IN THE STATE OF MICHIGAN,

AND THEIR UNTIRING ZEAL IN PROCURING ITS INSITION

INTO THE UNIVERSITY AS A COLLEGE OF MEDICINE,

AND AS AN EXPRESSION OF WARM PERSONAL

FRIENDSHIP, ENGENDERED BY MANY

YEARS OF SOCIAL AND PROFES-

SIONAL INTERCOURSE,

THIS MANUAL IS FAITHFULLY INSCRIBED

BY THEIR FRIEND,

THE AUTHOR.

PREFACE.

The following pages comprise a compendium of the lectures on the Principles of Surgery, delivered before the Junior classes of the Homœopathic College, of the University of Michigan. They are the *notes* or *guides* to the instruction I have given on the various subjects contained therein, and are presented in a more tangible form as the leading points or characteristics of the series of lectures delivered during the course. Being more comprehensive than a syllabus, and less prolix than the greater works on Surgery, they possess that concise and sharp-cut distinctiveness that appeals directly to the understanding. The work has been prepared more especially for the student, but will be found a useful and valuable reference to the medical practitioner. Whenever I have consulted the works of other authors, for the purpose of more extended information, I have employed only such that was really valuable, and excluded whatever, to my mind, seemed irrelevant or of doubtful worth.

My aim has been to teach the Science of Surgery in its purest and simplest manner, avoiding all technicalities and ornate phraseology, and embodying only such deductive facts as in my own judgment and personal observation, have stood the test of experience and demonstration.

It is not to be expected that in a work like this, written for the purpose of condensing rather than augmenting the sphere of Surgical science, that I should give to the student *all* that is valuable for a thorough understanding of this complex study. I have given only the faithful glimpses of the subjects taught, so that by the shadows you may easily and quickly recognize their substances. It is rather an index to the more elaborate works on

Surgery, and presents at a glance the leading features or characteristics of diseases, thus enabling the practitioner to treat them scientifically when perhaps time is not afforded for a fuller and more thorough investigation. It is a helpmate to the medical man in his pressing necessities, rather than a substitute for more elaborate researches, and I hope it may prove an acceptable reference to the average physician whose memory may be refreshed by a sharply drawn sentence, as the sheen from the diamond reflects the fire therein.

E. C. FRANKLIN.

UNIVERSITY OF MICHIGAN,
January, 1882.



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CHAPTER I.

INFLAMMATION, AND THE DISEASES ARISING OUT OF THE INFLAMMATORY PROCESS.

DISEASES OF TISSUES.

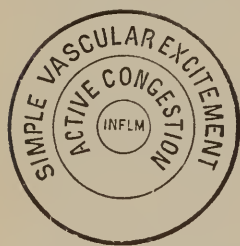
Inflammation.—*In*, in; *flamma*, a flame, is the parent of a large proportion of diseases to which the human family is liable. *Definition*—An alteration in the healthy structure and function of a part, accompanied by a perverted condition of the blood and capillary blood vessels, with vascular and cellular changes.

Various Theories.—Erasistratus taught, that, in inflammation, the arteries contained blood; in a normal condition they circulated air; the Humoralists next taught that the capillaries contained different kinds of bile and phlegm; the Methodists followed with their insensible corpuscles blocking up insensible pores; then followed the *anima*, or life-giving principle of Stahl which attributed inflammation to a condition of *spasm*. Since then, a series of theories followed. All *was* confusion and *is* at present. Holmes in his "System of Surgery" says, it *is* in the very crisis of revolution. Sanderson finds that stimuli applied locally cause an *increase of blood flow* and *dilatation of capillaries* (first stage of inflammation); others claim that the viscosity of the blood is the cause of crowding together of the blood globules in the inflamed parts, viz. 2d stage, thus reverting to the old theories. A few claim that the *inhibitory* or *vaso-motor* nerves produce capillary action and blood stasis, reviving the theory of spasm. Later pathologists advocate the "*coagulable lymph theory*" which is supposed to contain all the formative elements; molecules aggregate and form nucleoli in the blastema which arrange themselves into nuclei. A cell-wall there forms, thus constituting rudimentary elements, which ultimately form the various tissues. Then follows the *cellular pathology* advocated by Goodsir, Redfern and Virchow, which is called by Sir James Paget the *local*

production theory. Recklinghausen discovers a moving corpuscle among the connective tissue-cells and sees it wandering hither and thither with stretched and retracting arms, passing into and without the vessels, *the migration theory*; Williams, Stricker, and Billroth call it the "*ameboid theory.*" These cells are called "leucocytes." Lionel Beale proclaims the *germinal theory* in which he states, invisible particles in the blood escape from the vessels *without* a rupture of their coats, and that the agents for the new formations are developed by their proliferation and subdivision. The *migration theory* is received at present as the correct one; this no doubt will be succeeded by others and the theory of inflammation will still remain in as much doubt and confusion as with the older writers.

Definition of Inhibitory Nerve or Vaso-Motor.—In case of injury to any part of the body, the centripetal, or *afferent* nerves convey the impression to the cerebro-spinal axis, and by the vaso-motor center is reflected through the centrifugal, or *efferent* nerves to the vessels which produce the blood changes.

Stages of Inflammation are three: 1st, *Vascular excitement*; 2d, *active congestion*; and 3d, *true inflammation*. First, spasm has taken place, succeeded by debility; then *vascular excitement* begins, with a determination of blood to the part; capillaries previously conveying single files of red corpuscles, now admit them flowing through in masses and continually crowding onward; capillaries are dilated; invisible vessels become visible; functional activity increased; nutrition exalted; hyperæsthesia takes place; tendency to transudation which is chiefly



serous; increase of the ordinary function of the circulation, blood more and more retarded and changed in quality, exudation increased, serum and fibrine intermingle, all is verging into the *second stage* in which the leucocytes escape into the intervaseular spaces. Second, *Active congestion*. The commotion continuing, the arterial vessels become interested, enlarge and pulsate with increased energy; leucocytes escape with great rapidity; blood flows on persistently

and burdens the capillaries; relaxation and overdistention; circulation stagnant; red corpuscles leave center of channel and encroach upon lymph spaces; coats of the vessels become spongy; blood degenerated; nutrition in abeyance; copious exudation of serum and fibrine; function perverted; part is leaving the confines of health; coats of the vessels yield to the pressure from behind. *True inflammation*, or third stage. Changes begun are completed; liquor sanguinis extravasated in mass; intervascular spaces filled with changed blood; disintegration takes place; blood takes circuitous course; absorption in abeyance; structure changed; molecular death; suppuration in progress. Illustration; the vaccine pustule; three stages; *excitement*, *congestion*, and *true inflammation*; section of the disc gives, *exaltation*, *congestion*, *degeneration*.



Attendant Phenomena.—*Heat, Pain, Redness and Swelling.*—*Heat* is caused by Hyperæmia of the affected part with increased action of the blood. *Pain* is produced by pressure upon, or stretching of the nerve filaments through hyperæmia and exudation. *Redness* is caused by Hyperæmia of the affected part with hemorrhage into the tissues, and *Swelling* is produced by effusion of serum or white corpuscles into the tissues with increased cell-growth.

Variations in the Phenomena.—The *local heat* in inflammation is modified by the activity of the inflammatory process, by its variety, and by the constitutional condition of the patient.

The function of the inflamed part is usually impaired; the eye can not bear light; a joint cannot be moved; the ear loses its normal activity, and abnormal sounds are present; the bladder cannot retain urine, etc., etc.

Redness varies both in degree and tint; the amount of blood regulates the intensity; the tint of redness is in proportion to the rate of circulation; redness may exist independent of inflammation: as in blushing and the ruddy hue of healthy activity;—in non-vascular tissues, as in bone, cartilage, ligament, etc., redness is comparatively slight. It is called *ramiform*, when seated in the small arteries and veins; *capilliform*, when the capillaries are principally involved; *uniform*, when all the capillaries are injected, as in erysipelas; *punctiform* when occurring in minute dots, as when the villi of mucous membranes are injected; *maculiform*, when the blood is extremely accumulated or extravasated at certain points; this form of redness is seen in hemorrhagic inflammations. The discoloration varies not only in degree, but in character and becomes an important diagnostic in determining the nature of disease. Thus the throat is scarlet in scarlatina; dark red or purplish in primary syphilis; yellowish in bilious erysipelas; copper-colored in constitutional syphilis, and black as in mortification. In arterial accumulation it is bright red, and in venous engorgements it is of a dark or purplish hue.

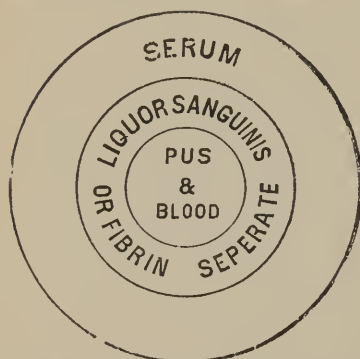
Pain is modified in degree: first, by the anatomical seat of the inflamed part; second, by the density of the tissues surrounding its seat; and third by the character of the inflammation. The quality of pain varies greatly and is the most characteristic of all the phenomena attending the inflammatory process. It is caused by the compression of the nerve filaments, *nervi vasorum*, and differs in intensity and character. It is burning in the skin; lancinating in the pleura; a sensation of heat and soreness in the mucous membranes; dull and oppressive in parts supplied with ganglionic nerves; hard and tense in bone, periostium, and ligament; greater in common than in specific inflammation; less severe if the products of inflammation can escape readily; often felt remote from the inflamed part, as pain in the knee is frequently diagnostic of hip-joint disease; pain in the penis and

bladder often indicates renal trouble; pain in the right shoulder is reflective of inflammation of the liver; and pain in the thigh points to inflammation of the pelvic viscera. Sometimes it is absent entirely as in adhesions in healthy and strong reactive constitutions. Thus we find intra-pleural adhesions after death that were not suspected during life. It is insidious and indolent as a rule in scrofula; or when the mental and physical sensibilities are obtunded by the habitual use of intoxicating liquors, or when the nervous system is depressed by toxic influences, as in pyæmia or typhoid fever. It is more severe in the coverings of an organ than in the structure itself. Pain oftentimes exists without inflammation as in *irritation*. Pain is increased by pressure in inflammation and in neuralgia it is relieved by the same agency; pain suddenly disappearing indicates great danger as in the last stage of hernia. Pain does not always accompany inflammation as in pneumonia which gives little or no pain, as also inflammation of Peyer's glands and acute abscess in paralyzed limbs. Pain is a peculiar mental perception which, as a prime agent in man's altered condition, suggests the necessity of rest to the organ inflamed; it is the admonition that the properties of repair are straying from the condition essential to its restoration. Pain exhausts the vital powers and therefore demands the earnest solicitude of the surgeon and physician.

Heat is always present in inflammation and is derived from the excess of blood to the part inflamed as the source of animal heat. Liebeg attributes heat to the oxydation of the tissues. Irritate the skin with a blister and heat is produced. It is the most constant of all the symptoms of inflammation, and is both subjective and objective; efferent blood flow, causes a higher temperature than the afferent; the inflamed part is always warmer than the corresponding part; increased vital effort produces increased textural waste or change. The degree of elevation may be from 1° to 10° F.; over 8°, prognosis is unfavorable,—sudden decline of temperature with a fall of 4° is ominous of danger.

Swelling is an undue accumulation of serum or white corpuscles in an inflamed part, with impaired functions; is seldom entirely absent in inflammation of external parts, but may be

absent in some of the internal structures. Mucous membranes,



except when they are supplied with loose cellular tissue, are, as a rule, exempt from this process. It is caused by the escape of a portion of the vascular contents into the intervascular spaces. In the earliest stage it is chiefly *serous*, in a later stage, *fibrin* more or less separated from its serum exudes, and lastly serum, fibrin, and

blood is extravasated in mass, the result of vascular degeneration; ultimately, purulent matter, more or less advanced, is formed. Swelling varies with the ability of the tissue to *hold exudation*, or to allow of cell-growth; is most marked, therefore, in loose areolar tissue, or in the kidneys.

Classification of Inflammation.—First, A, on the basis of pathology; second, B, on the basis of its severity and duration; third, C, on that of its causation. Its pathological varieties are: *vascular, cellular, necrotic, necroto-reparative, hyperplastic, and tubercular.*

A. The *Vascular* variety is that where the *vessels* of the affected part exhibit the most marked inflammatory changes.

The *Cellular* is that where the *cells* of the part are chiefly involved.

The *Necrotic* is where the part inflamed dies from arrest of nutrition.

The *Necroto-Reparative* is where the inflamed part has, to a certain extent, lost its vitality, but eventually regains it.

The *Hyperplastic* is where the part has taken on a *new connective tissue development.*

The *Tubercular* is a deposit of *miliary tubercle* in a part.

B. The varieties on the basis of its *severity* and *duration* are:

1st.—*Acute inflammation*, where the changes in the affected part are rapid and the effects correspondingly severe.

2d.—*Chronic inflammation* where the changes in the affected part

come on gradually and are of a marked lower type than the former.

c. The varieties depending on the *basis of causation* are:

- 1st.—*Traumatic*, which are produced by external injuries, and mechanical or chemical violence.
- 2d.—*Infective*, which depend upon the transmission of infective materials, carried along the blood-vessels or lymphatics, from some local infecting centre, as pyæmia, etc.
- 3d.—*Idiopathic*, where there is no obvious exciting cause in existence.
- 4th.—*Specific*, where the inflammation exhibits distinctive peculiarities, as in erysipelas, small pox, typhoid fever, and diphtheria.

In *acute inflammation* the constitutional symptoms are, severe irritation, quick pulse, shivering, increased temperature, dry skin, parched mouth, coated tongue, scanty urine, constipated bowels, failure of appetite, etc. The *local changes* are in accordance with its severity. The *duration* is short; the *changes in tissue* are rapid; the injury sustained by the blood-vessels and tissues is correspondingly severe; the *vascular phenomena* are prominent; the exudative process is excessive; suppuration is frequent; and *organization of the inflammatory products* is rare.

In *chronic inflammation* all the constitutional symptoms are less violent and more tardy than in the preceding. Irritation is usually slight; duration prolonged; changes in tissues are slower and less extensive; injury to the affected tissues is less severe; vascular phenomena are less prominent; the exudation processes are less abundant, suppuration is rare, and *organization of the inflammatory products* is the rule.

Etiology.—The causes of the inflammatory process may be either *predisposing* or *exciting*.

Among the *predisposing* causes may be mentioned, *chronic irritation*, (produced by poverty, bad ventilation, poor regimen, etc.); *old age*, (by defective heart power, and altered capillaries); *exhaustive diseases*, (as bed-sores and continued fever); *local diseases of blood-vessels*, (by causing imperfect nutrition to the tissues); *previous inflammation*, (by depressing the reactive tissue power);

abuse of alcohol; plethora; climate; temperature, (by extremes of heat and cold); atmospheric poisons, (by malaria, sewer gases, chemical vapors, etc.); and bad hygienic conditions.

Exciting Causes.—*A direct irritation from chemical agents; mechanical injuries of every form and kind; influence of morbid materials generated within the body; altered state of local nerves; abnormal properties in the blood; direct contagion arising from virus, poisonous and decomposing pus.*

Microscopical Appearances.—Among the changes that have been observed by the microscope are: first; *momentary spasm*; the irritable capillaries suddenly contract, which is followed by *dilatation of the capillaries* or a partial paralysis of the vessels, *first stage*; then follows retardation of the blood current, a stagnation of the vital fluid. This is succeeded by transudation of plasma elements; the walls of the vessels are thin and altered in structure and thus permit easy *transudation of white corpuscles, second stage*. Here nutritive cell activity is observed by the rapid movements and proliferation of the leucocytes, *conjoined with these changes* there is transudation of red-blood corpuscles and extravasation of blood in mass into the intervascular spaces, either by rupture of the capillaries or some alteration in their walls; *third stage*.

Termination and Effects.—There are two ways in which inflammation may terminate: first, by the *death* of the patient; second, by *resolution* through which the circulation may recover itself, healthy nutrition be restored, effusion absorbed, function and secretion reestablished, and the part returned to its normal state.

The *effects* are *Tumefaction, Induration, Softening, Suppuration, Ulceration, and Mortification*.

Tumefaction of tissue always follows the severer forms of inflammation and is produced by the excessive flow of blood to the part through the dilated capillaries. Often it is the result of an accompanying œdema of the inflamed structures. It is attended with local pain and tenderness, and also by a local, perhaps a general rise in temperature.

Induration of structure depends upon abnormal connective tissue cell-growth, which becomes organized and developed into

new tissue resulting in interstitial deposit of plastic material. It is the outgrowth of chronic inflammatory processes and requires slow development and organization to produce it. In *acute* inflammation the process of cell-growth is too rapid for organization, hence disintegration and suppuration follow. These inductions of structure are rarely associated with pain or local symptoms, after disappearance of the cause producing it, and are as a rule gradually removed by natural processes; by a process of fatty degeneration and absorption.

Softening follows the more acute forms of inflammation as the result of impaired nutrition. It is characterized by a loss of cohesion of the affected structures and varies from the slightest changes of structure to complete pulpification.

Suppuration is a disorganization of structure and the formation of pus, accompanying superficial ulceration or granulative processes, or it may be a *circumscribed* process, as—abscess, furuncle, anthrax, suppurative inflammation of glands and organs, are the types of this variety. Sinuses and fistulæ indicate sources of irritation, as caries, necrosis, foreign bodies, etc. Pus consists of two elements: the puss-cell or lymph corpuscle and serum. Its amount depends upon the extent of transudation in inflammation. The pus-cell is a degenerate leucocyte microscopically; it is found in two conditions, as a *secretion* on a free surface, or enclosed in a cavity—in the former it is *reparative*, in the latter *degenerative*. Suppuration is the result of the reparative process and is a true luxuriation. When profuse and long continued it gives rise to *Hætic*.

Varieties of pus are, *laudable* or healthy, *unhealthy*, *specific*, and *sanious*. When combined with other products, it is called muco-purulent, and sero-purulent. It is thin in ichor, *flaky* in serofula, bloody in sanies, offensive in sordes.

Analysis of pus shows proximately:

Water,	-	-	-	-	-	86.1
Fat and Comazome,	-	-	-	-	-	5.9
Albumen pyine cells,	-	-	-	-	-	7.4
Extractive,	-	-	-	-	-	0.6
						<hr/>
						100.0

Sanious pus is due to rapid absorption of tissue with capillary hemorrhage. *Serofulous* pus is due to degeneration or disin-

tegration of the purulent elements, frequently containing fragments of the tissues in a partially dissolved condition. *Laudable* pus forms rapidly and abundantly and is largely supplied with leucocytes. Pus as such is never absorbed into the circulation.

Ulceration is a solution of continuity of soft tissues, dependent upon molecular death and occurs upon the *surfaces* of organs and tissues and in the *lining coat* of blood-vessels and serous membranes. It may result from: 1st, *Enfeebled circulation*, or *defective nutrition*, *specific diseases*, *direct inflammation*, *abnormal blood conditions*. They are classified as *healthy*, *indolent*, *irritable*, *inflamed*, *hemorrhagic*, *varicose*, and *phagedænic* ulcers. Skin, mucous membranes, and cellular tissues yield rapidly; the vascular, nervous, and fibrous structures less so. Parts remote from the center of circulation, newly-formed structures, cicatricial tissue, callosities, tumors, etc., are more liable to ulceration than other parts.

Mortification comprehends the dying and death of a part. A state of complete death is called *sphacelus*. Gangrene is divided into *moist*, *dry* and *hospital*. The *moist* is the result of obstructed venous return; the *dry*, of impaired arterial supply, and the *hospital* depends upon some epidemic poison producing a tendency to phagedæna. It may result from local injury, excessive heat or cold, escharotics, inflammatory congestion, œdema, embolism, thrombosis, old age, atheroma, and abnormal blood conditions, ergot, phosphorus, the poison of glanders, and the inoculation of farcy. The *dry* gangrene is known by a simple withering and mummifying of the part. In the *moist*, the part is soft, dark, and infiltrated with gases from decomposition, causing an emphysematous crackling on pressure. Blebs appear upon the surface, offensive in odor, and finally the lines of demarcation and separation take place, and as the result sphacelus or slough occurs.

Treatment.—The treatment of inflammation is *prophylactic*, *constitutional* and *local*. The *prophylactic* comprehends almost every remedy known to our materia medica. Among the most important are *Acid phos.*, *Acon.*, *Baptis.*, *Bry.*, *Calc.*, *Baryta*, *Bell.*, *Cham.*, *China*, *Crotal.*, *Eupat. per.*, *Gels.*, *Graph.*, *Hepar s.*, *Lach.*,

Lycop., *Merc.*, *Nitric Ac.*, *Opium*, *Petrol.*, *Rhus tox.*, *Rhus rad.*, *Staph.*, *Sepia.*, *Silic.*, and *Sulph.*

The constitutional are: *Acid Mur.*, *Acid Phos.*, *Acon.*, *Arn.*, *Agaric*, *Apium vir.*, *Ars.*, *Baptis.*, *Bry.*, *Canth.*, *Cham.*, *China*, *Calc.*, *Crotal.*, *Gelsen.*, *Hepar s.*, *Kali. iod.*, *Merc.*, *Mang.*, *Nitric Ac.*, *Petrol.*, *Puls.*, *Rhus*, *Sulph.*, *Verat v.*

Local Treatment.—Rest; position; incisions; medicated applications; warm medicated fomentations; stuping; cataplasms; escharotics; pressure; acupuncture; galvanism.

Abscess.—*Definition:* “Collection of pus in the substance of an organ.” Varieties: *Acute* and *chronic*; these are subdivided into *Phlegmonous*, *Scrofulous*, and *Pyæmic*. Besides these they are designated by the tissues in which they form, as abscess of the liver, lung or brain. The one constant factor is *pus*.

Acute abscess is the typical form and is always circumscribed, hot, and develops rapidly. Pus forms at a given point; a limiting membrane (pyogenic) is formed and swelling results; inflammation exists in the outset with rigors, pain, and throbbing or pulsation; the swelling becomes circumscribed and of a conical form; the skin is inflamed and discolored; the growth is at first hard, then becomes boggy and doughy, with fluctuation at a certain part, which is termed “pointing”; necrosis or molecular death takes place at this thinned spot and finally the tissues yield, giving exit to the imprisoned pus; or, it may be evacuated by the surgeon. The tendency of pus is to burrow between muscles or fasciæ for long distances, which is prevented by an artificial evacuation. *Specific* abscess, is that produced by some specific virus as the syphilitic or gonorrhæal.

Chronic abscess, usually found in scrofulous patients, affects the glands and is characterized by slow growth, and painlessness; there is no heat of surface; the suppurative process is slow and during the time the health of the patient is not much impaired; the pyogenic membrane is thicker, but softer and more friable than in the acute variety; pointing is late in the disease and often at a remote part and is rarely near the surface. It grows to be of a very large size, the skin is usually pale and seldom œdematous or adherent. In cases of diagnostic doubt, use the aspir-

ator or exploring needle; abscesses are called *primary* when they originate and develop in a certain spot, the point of attack; *metastatic*, when they change from one part to another.

Sympathetic abscess is the "cold" variety of some authors and is a true indolent abscess, growing slowly, frequently acquiring a large size, irregularly circumscribed and apparently formed without any very palpable evidences of pre-existing inflammation. The contents of these abscesses are variable; sometimes glassy, turbid, flaky, and dark-colored. Their most frequent seat is upon the back, in the axilla, about the neck, or upon the thigh or leg.

Treatment.—1st. Dispersion of the tumor before disintegration. 2d. Modifying its characteristics and to evacuate its contents. 3d. Arrest of the discharge and promotion of the healing process. 4th. To rectify faults of constitution.

The first may be frequently accomplished by giving internally *Hepar s.*, *Merc.*, *Calc.*, or *Sulph.* Externally may be applied *stimulating* applications to the skin directly over the abscess, or *hyperdistension* may be used as follows: evacuate the contents by aspiration, throw in an injection of *Calendula* or *Hydrastis* and thoroughly cleanse the inner sac till all pus is removed, then apply the drainage tube and well directed pressure.

The internal remedies are *Ars.*, *Baryta.*, *Bell.*, *Bry.*, *Calc. c.*, *Calc. iod.*, *Calend.*, *Carbo veg.*, *Cham.*, *China*, *Graph.*, *Hepar s.*, *Iodine*, *Lyc.*, *Merc.*, *Phos.*, *Puls.*, *Rhus.*, *Silic.*, and *Sulph.*, according to characteristics.

Special Indications.—**Acconite.**—Violent burning, cutting pains; great nervousness and fever; apprehensions evening and night.

Apis.—Stinging, burning, great swelling (incipient stage).

Arsenic.—Burning pain with restlessness; discharge watery, bloody, putrid; prostration; threatened gangrene (Lach.).

Asafœet.—Discharge watery; colorless; great pain after touching; adjacent parts very sensitive.

Baryta c.—Scanty discharge with flocculi; lymph glands affected.

Bell.—Discharge scanty with flocculi; skin bright red and smooth; pains burning, come and go suddenly.

Calend.—Profuse laudable discharge with constitutional impairment; induration of the adjoining structures.

Hepar s.—Pus forming rapidly *before* rupture, pricking, throbbing pain *after* rupture; discharge scanty, bloody, smelling like old cheese—after mercury and syphilis.

Lach.—Dark purple color of skin; threatened gangrene (ars.) septic causes.

Merc.—Discharge copious, bloody, yellow, thick or thin, corroding and fetid; pus forms slowly; pain worse at night after syphilis.

Phos.—Discharge thin, bloody; bleeds easily; burning, stinging—mammary abscess.

Phytol.—Mammary abscess, early stage.

Puls.—Bleeds easily (Phos) itching, burning; discharge copious—females.

Rhus tox.—Discharge bloody, serous, axillary glands implicated.

Sil.—Discharge laudable, watery, fetid, after opening to promote healing; deep-seated abscess; constitutional impairment.

Sulph.—Chronic cases; tendency to repeated attacks.

Ulceration.—Definition: “Molecular death” of a part. and is divided into two stages. 1st. Where the tissues are broken down by the process of disintegration. 2nd. Where the *debris* is removed or discharged. The more active the ulcerative process and its disintegration, the less landable is the purulent discharge. It is called *acute* when it advances steadily with moderate inflammation; *inflamed* when the excitement is higher, more rapid, painful, and accompanied by greater redness, heat and swelling; *phagedenic* when the excitement is still higher, with diminished local power, and destruction so rapid that the part seems to consume or melt away. Persons debilitated by intemperance, advancing age, privations, syphilis, loss of nerve force, scrofula, mercarialism, are most liable to it. Tall persons, and parts newly formed, those remote from the center of circulation, as well as those in which the blood-flow is weak and languid, or impeded by any cause, are also prone to it. An impaired or faulty nutrition, unfavorable changes in the circulation, and alterations of texture, favor this process.

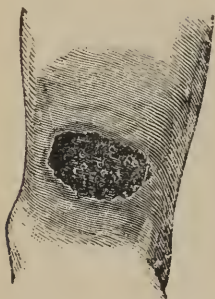
Exciting Causes of Ulceration are, acute inflammation, mechanical injuries, chemical irritants and continuous pressure.

Healthy ulcers show a tendency to reparation; the granulations are healthy, red, small, and numerous; pus laudable and creamy, easily detached; edges smooth and covered with a white pellicle gradually merging into the margin of the granulations; heals spontaneously and regularly, leaving little or no trace of having existed. Example, furunculus or common boil, usually painless, tender to touch, without disposition to bleed. *Treatment:* Internal remedies are *Ars.*, *Hepar s.*, *Calc. c.*, *Dulc.*, and *Puls.*

Local Treatment: Rest, position, and *Calend.* Expose to air to form scab; apply raw cotton or lint if weak and not extensive, protect from external violence. Calamina cerate applied to the surface is highly recommended.

Irritable is very tender to touch, bleeds easily, and is preceded by an irritable state of the system; digestion is impaired. Is met with in the higher walks of life, and is brought about by excesses in eating, drinking, and other things. Its edges are ragged, inverted, and serrated; floor irregular in depth; parts

contiguous are red, inflamed, and frequently œdematous; the discharge is thin, ichorous or sanious fluid, and is often so acrid as to excoriate the skin from contact. Granulations are imperfectly developed, and often entirely absent; in lieu of them is found a dark, red, spongy mass, having a grayish film, acutely sensitive, and bleeds at the slightest touch, the blood oozing away, being of a dark, grumous character.



Treatment.—Internal remedies: *Asa.*, *Ars.*, *Bell.*, *Carbo. v.*, *Canth.*, *Caust.*, *Ham.*, *Hepar s.*, *Hyperic.*, *Kreas.*, *Merc.*, *Puls.*, *Nitric ac.*, *Rhus rad.*, *Staph.*, *Solan.*, *Silic.*, *Sulph.*, Correct faults of constitution. Apply locally: *Bell.*, *Hydrasi*, *Hyperic.*, *Ranun.*, *Canth.*, *Caust.*, *Sulph.*, and *Staph.* Exact perfect rest. Cleanse ulcer with warm, medicated lotions three times a day, of either of the foregoing remedies, and apply light compresses, warm and continually moistened with the remedy and covered over with oil silk for warmth and moisture.

Indolent is most frequent of all ulcers. Occurs generally on lower extremities, in poor persons, in old age; called “poor man’s ulcer.” It is a secondary formation having passed through the stages of inflammation. Is in direct contrast with the irritable sore. Granulations are entirely wanting, or are else very few, pale, small and firm. Surface is excavated, pale, smooth and glossy. Edges are elevated, rounded, blue, smooth, thick, and everted, giving to the sore an excavated look. Great insensibility. The surrounding integument is discolored and swollen by passive congestion. It presents



the appearance of a patch of pale mucous membrane set in a dense, high ring of cartilage, and covered with a pellicle or crust of a whitish or dark-gray color, so tenacious that it can with difficulty be separated from the floor of the ulcer.

Treatment.—Remedies are internally, *Ars.*, *Calc.*, *Caust.*, *Cham.*, *Carbo. v.*, *Clem.*, *Graph.*, *Iod.*, *Merc.*, *Phos. ac.*, *Secale.*,

Silic., *Sulph.*, *Sanguin.*, *Sepia.*, *Thuya.*, and *Zinc*, and due attention to systemic faults.

Local Treatment.—Rest; position; cleanliness; even sup-



port by a roller; adhesive straps; the sore having been *first* filled with a trituration of *ars.*, *merc.*, the *oxide of zinc*, or *acid nitrate of mercury*. *Carbon sulphide* is highly recommended and also *chloralum*. Never wipe the surface too harshly. Incise cartilaginous ring or border.

Ektoplasty. *Skin and cell grafting.* The *earth treatment*.

Inflamed.—Like the last, this ulcer is the result of improper treatment of either of the preceding. The granulations are large dark, and firm at first. They then slough away and soon disappear, partially or entirely. Pus is thick, offensive and streaked with blood; edges raised with sharp outline, and very much inflamed which extends into adjoining parts. Pain is severe, varying, perhaps pulsating, and the sore is very sensitive to pressure.

Treatment.—Remedies: *Arn.*, *Acid mar.*, *Bell.*, *Hyperic.*, *Calc.*, *Canth.*, *Caust.*, *Clen.*, *Hepar s.*, *Kali c.*, *Kreos.*, *Lyc.*, *Merc.*, *Phos.*, *Ruta.*, *Sepia.*, *Staph.*, *Thuya*. Local treatment as recommended in the *irritable* variety.

Hæmorrhagic.—Similar to the irritable. Frequently met with in females suffering from menstrual irregularities. It is a small, circular, deep, purplish-colored ulcer; exceedingly painful and sensitive; regular in shape, with clear-cut edges, as if done by a gonge. During the menstrual epoch it oozes blood; at other times the discharge is varied, resembling that of the irritable variety.

Treatment.—Remedies: *Acid phos.*, *Ars.*, *Borista*, *Calc.*, *Calc.*, *Canth.*, *Hyperic.*, *Graph.*, *Kali*, *Iod.*, *Lyc.*, *Merc.*, *Puls.*, *Sepia.*, and *Sulph.* Local treatment, same as the irritable.

Varicose is a variety of the indolent, and precedes or follows a varicose condition of the veins of the legs or thigh. Usually occurs on the inner side of the leg. Difficult to cure. There is no tumidity of its edges, and it presents a blue or purple appearance; the sore is seldom deep; spreads, and is oval in shape. The branches of the saphena are enlarged and tortuous; the varicose condition antagonizes the cure. The limb is often swollen from the varicose degeneration; the coats of the veins are thickened; vitality impaired; temperature diminished; parts bluish, and are very prone to inflammation and disintegration. Often the *irritable* ulcer is accompanied with varicose veins. The pain is deep-seated, except along the course of the veins, and is increased in the upright position. The varicose condition requires the first attention of the surgeon.

Treatment the same as recommended in the indolent and irritable varieties, depending upon the leading characteristics. For the varicose condition of the veins give *Fluoric ac.*, *Mer.*, *Ars.*, *Carbo veg.*, *Iodium*, *Ham.*, *Puls.*, *Fach.*, *Nuc.*, and *Sulph.*

Surgical Treatment.—Ligation of vein. Lace stocking. Excision of vein. Subvenous needle and figure of 8 ligature. Plaster of paris cast. Electricity. Galvanism.

Phagedæna is a peculiar variety of ulcer with copious exudation and infiltration of the part affected, with rapid and persistent decomposition. The surface of the sore is irregular, whitish or yellowish. Discharge scrous or bloody, and often profuse and painful. Some cases are attended with violent inflammation, the margin of the sore being highly painful, red and swollen. Atony and debility accompany other varieties with a pale, dusky or livid margin. Described more particularly under Hospital Gangrene and syphilis.

Local Treatment for phagedæna is *Calamina* and *Iodoform C.*, *rat.*, *Chloride of Zinc paste*, *Carbolic Acid paste*, *Baptisia* and *Charcoal poultices*, *Permanganate of Potash*, and as a last resort the actual or the galvanic cautery. The fuming nitric acid I have used with better effects than either of the two last.

Special Indications.—**Acid m.**—Stinging, itching and painful ulcers, fetid odor, putrid ulcers with burning or jerking pains, pus fetid and scanty; covered with a thin crust; acts well on either side.

Acid n it.—Ulcer sensitive and offensive, with shooting, burning pains, edges burning; superficial or mercurial ulcers, readily bleeding, sensitive to touch or bathing in cold water;

fistulous ulcers, pricking pain, pus copious, bloody; ichorous and corroding. Either side.
Ammon. carb.—Flat, putrid ulcers, with a pungent sensation; elevating limb relieves; pus white and putrid. Either side.

Antim. crud.—Deep ulcers, fistulas, spongy ulcer, itching or pricking, exuberant granulations, worse from heat, pus scanty. Left side.

Ars.—Burning and putrid ulcers, elevated edges, areola red and shining, with oedema, floor of ulcers dark or lardaceous, exuberant granulations with fetid ichor, bleed easily; gangrenous or inflamed ulcers, pus copious, ichorous, corrosive and bloody, or thin and watery, ulceration extending in breadth. Either side.

Assafoet.—High, hard edges, sensitive, bleed easily, shooting, pricking pain around edges, pus profuse, greenish, thin, offensive, ichorous, with black floor, and bone ulcers with thin, fetid, ichorous pus; ulcers from burns and scalds, with great sensitiveness. Either side.

Aurum.—Deep bone ulcers, especially about the head and face; cancerous and mercurial ulcers, purplish, dark red, swollen and painful, itching, shooting and burning; pus yellow and fetid; sad and gloomy. Either side.

Baryta c.—Ulcers on tonsils; tense, gnawing pain, scabby, crusty, indurated, painless and difficult to heal, pus gelatinous, scanty or entirely absent; after diphtheria. Left side.

Calc. c.—Scrofulous ulcers, fistulas, carious, inflamed or putrid; feeble, pale granulations; throbbing, tearing pain, with systemic implication; hard cartilaginous edges, pus scanty and albuminous. Either side.

Canth.—Irritable ulcers with itching, stinging, burning, lacerating pains, made worse by rubbing; pus copious, yellow, odorless, tinged with blood. Right side.

Carbo v.—Scrofulous ulcers, varicose, livid, fetid and easily bleeding; secretion scanty, corroding and fetid.

Caust.—Bleeding ulcers, with blisters on the surrounding skin; burning, boring pain on the edges, with a feeling of tension, swelling and sensitiveness; pus bloody, corroding, ichorous and thin as water; acts better on right side.

China.—Ichorous, sensitive ulcers, with putrid smell; flat, shallow base with copious discharge; carious ulcers, attended with copious perspiration, painful sensation on moving; pus bloody, ichorous and fetid; system cachectic, or emaciated from any cause. Either side.

Bell.—Congestive, irritable ulcers with red areola, swelling of the surrounding skin; inflamed and painful; pus scanty, bloody and ichorous; acts better on right side.

Conium.—Blackish ulcers after contusion, deep and burning pains, fistulas, ulcers with hard edges; cancerous ulcers; stitching pains; gangrenous edges, old, swollen and inflamed; blisters border; night aggravations; pus fetid, thin and ichorous. Right side.

Fluoric ac.—Painful ulcers with copious discharge; varicose ulcers with burning pain, increased by warmth; pus yellowish.

Graph.—Old ulcers, fetid, irritable, pain, itching and stinging; cracks and fissures in the skin, indisposed to heal; sensitive, sore, spongy ulcers; crusted and scabby; pus bloody, acrid and corroding; smelling like herring brine. Right side.

Hepar s.—Ulcers smell like old cheese, edges sensitive, pulsating, stinging burning pain; mercurial and indolent ulcers, edges ragged, pus laudable, or acrid and bloody. Left side.

Kali bi.—Dry and deep ulcers, hard base, depressed cicatrix, edges overhanging, and red areola. Either side.

Lach.—Gangrenous, moist, purplish and sensitive ulcers; discharge ichorous and offensive; phagedenic with ragged edges, surrounded by papillæ or small livid ulcers. Left side.

Merc.—Superficial, bleeding ulcers with lardaceous base, worse from warmth; spreading, painful and sensitive; gnawing and throbbing pains, edges bluish or livid, hard, elevated and ragged edges; pus scanty or copious, never laudable; whitish superficial ulcer. Either side.

Phosph.—Fistulas with hard callous edges, gnawing pain, hectic, pus thin, ichorous, influenced by weather changes. Either side.

Psorinum.—Itching ulcers over the whole body, oozing blisters on legs, small pustules increasing in size with tearing pain, crusty eruptions all over; body has foul smell. Either side.

Sang.—Old indolent ulcers, callous edges, languid circulation, sensitive to weather changes.

Sepia.—Painless ulcers on fingers and toes, exuberant granulations, hard, elevated edges, want of sensitiveness; sore, spongy ulcers, itching pricking pains, pustules around ulcer. Right side.

Silic.—Deep ulcers in membranes with aching, pulsating pains, base or edges black, bleed easily, fistulas or sinuses involving bone or ligament; with hard, shiny edges; pus copious, brownish or grayish, or bloody and ichorous; worse from weather changes; in scrofulous or broken constitutions, worse from lying on painful side. Either side.

Sulph.—Old and fetid ulcers, raised swollen edges, bleeding easily, pimples around the borders, tearing, stinging pains, fistulas and sinuses in scrofulous or cachectic persons, oedematous swellings with discoloration of skin; variable ulcer with luxuriant granulations, pus thick and fetid, or thin and fetid. Left side.

Thuja.—Flat ulcers after gonorrhœa with indurated edges, deep, burning and fistulous ulcers, with itching, burning pain; rubbing relieves; ulcers with serrated edges and spongy. Either side.

Zincum.—Herpetic ulcers, non-sensitive, with redness of skin, burn and bleed easily; pus bloody and corroding; tearing and feeling of tension of the ulcer. Left side.

Mortification is the general term comprehending the whole process of death in a part from its beginning to the termination

of the process. The process of dying is called *gangrene*, and its complete death *sphacelus*. Other distinctions are made : as the acute and chronic, traumatic and idiopathic. The process may be divided into three stages: the death of the *part*; a period of arrest of the plastic deposit; and that of separation and granulation. The humid, acute, or traumatic gangrene generally depends upon venous obstruction, and is usually accompanied by inflammation; the dry, chronic, or idiopathic occurs as a rule without inflammation, the fluids being retained in the former and gradually parted with in the latter. The humid or acute form is attended with inflammation; swelling; diminished temperature; blueness of the surface: part is covered with vesicles; peculiar crepitus on pressure; general condition of



patient suffers; the countenance expresses anguish with hiccough: delirium, and perhaps death. This picture represents ordinary acute gangrene. *Traumatic* gangrene occurs from severe railroad injuries; parts crushed and pulphified; injured structures suffer and die immediately and gangrene spreads rapidly. In such cases do not wait for line of demarkation; delay is death; amputation to be successful should be prompt. Senile gangrene is a peculiar form incident to old age. It commences with a purple or black spot on one of the smaller toes; the cuticle is found detached, and the underlying skin is of a dark, red color. It is painful at night; patients feel uneasy; its progress is usually slow; at times exceedingly rapid and painful; the parts soon die; are dry, shrunken, and hard; there is sometimes a temporary pause and the parts slough away; then a fresh accession of gangrene occurs and cicatrization progresses. Life is prolonged in this way for several years before exhaustion and death takes place.

Causes of Gangrene are impeded circulation; ligature of a ves-

sel; improperly applied roller; old age; calcareous degeneration of vessels, known as ossification; embolism; thrombosis; long continued pressure, as in "bed sores;" ergotism; plagues and epidemics; yellow fever; scurvy; bites of serpents; intense and long applied cold; gun shot wounds; injuries; infiltration of urine in to the cellular tissue.

Treatment.—Remedies are *Ars.*, *Crotal.*, *Lach.*, *Carbo v.*, *Secale cor.*,—to which may be added in the second class, *Ac.*, *Bell.*, *China*, *Euphorb.*, *Helleb.*, *Hyos.*, *Iodine*, *Sabin.*, *Squill.*, and *Sulph.*

Special Indications.—**Ac.**—Deadly paleness of face, shuddering, restlessness and sleeplessness. After swelling, parts become black—fever.

Ars.—Gangrene following confusions.

Ars.—Numbness, stiffness, insensibility with swelling and pain; hot, shining, burning red spots and bluish blisters; hard, red, painful swellings; gangrene with fetid diarrhoea; great weakness and emaciation; coldness and heat alternately.

Crotal.—Hot, bluish, moist gangrene; fever and chills of a severe type; limb swollen and covered with black blisters; emitting a foul, cadaverous smell; grayish white mass; strength greatly reduced; pulse quick and small; skin hot and dry; tongue livid thick.

Carbo v.—Senile gangrene—humid gangrene in cachectic persons with weak vitality; foulness of the secretions, great prostration.

Lach.—Gangrenous blisters, look bluish or black; vesicles increasing in size, with violent itching and burning, swelling and inflammation, violent pains, heat and thirst, fever, cracked skin and deep rhagades, coldness of the part; painful spots appear on rubbing, with dark-blue borders; traumatic gangrene.

Secale c.—Dry gangrene of the extremities; parts are dry, hard, cold and insensible, black and free from fetor. Large ecchymoses, blood blisters becoming gangrenous; limbs cold, pale and shrivelled, with insensibility.

Local Treatment.—Preserve warmth of part; carded wool; cataplasm of *Frasera Carolinensis*; *Ulmus* and *Dipasens sylvestris*; Carbolic Acid, Chlorine and Bromium; *operative procedure* whenever demanded.

Hospital Gangrene. Synonyms: Hospital Sore; Sloughing Ulcer, and Phagedæna, was the scourge of hospitals in former days, especially during the Napoleonic and Anglo-Russian wars when it was extremely destructive. Now it is almost unknown by the proper application of drainage, sewerage, ventilation and hygiene. Its symptoms are like the phagedænic ulcer engrafted upon a slight wound. Part is painful and inflamed. Previous discharges are arrested. Surface is covered with gray spots of gangrene which spread and deepen. The skin is livid and swollen. Edges of sore are rough and everted. The slough is pulpy and tenacious; its separation is accompanied with offensive discharges; it attacks sores and wounds; is induced by salivation at times; mercury also increases its liability. The pulse runs high. Patient is debilitated, and is often attacked with profuse perspiration or colliquative diarrhoea. The only affection with

which it may be confounded is Scurvy; but it is easily distinguished from the latter by the characters of the scorbutic ulcer which is peculiarly *livid, fungous, bloody* and *fetid*. Its granulations are large, soft, spongy, rapid in growth, and bleed easily at the slightest touch. In scurvy there is entire absence of fever. Beside these, the history of the case makes it no longer dubious.

Prognosis: As an epidemic, fatal. Broken systems fare worse than the healthy and vigorous. The violence and extent of the disease exerts a marked influence upon its fatality. The danger is less when it is slight and correspondingly greater when it is considerable. Complications of internal organs increase its fatality. In purulent infection, septicæmia is uniformly fatal. Death occurs from hæmorrhages and exhaustion.

Treatment.—Remedies are *Ars.*, *Crotal.* *Lach.*, *Kreas.*, *Carbolic ac.*, *Carbo v.*, *Mur. ac.*, *Nit.*, *ac.* *Rhus tox.*, *Secale* and *Zinc*. (See gangrene).

Local Treatment.—*Chloride of Zinc* or *Carbolic Acid* as an escharotic. Cleanliness and great care as to the dressings and vessels employed. Walls and floor thoroughly cleaned and disinfected. Ventilation. Cataplasms of yeast. Red Cinchona bark and charcoal applied to the part. *Bromium* and *Carbolic Acid* as antiseptics. Good diet. Stimulating drinks, such as milk punch and egg-nogg. In case of hæmorrhage ligate or cauterize the bleeding vessel. *Erigeron* and *Persulph. of Iron* as styptics. *Kali Permang.* has been highly extolled. Oxygen gas and transfusion of blood may be employed as remedies of last resort.

Prevention by the Antiseptic Method has been highly recommended in accordance with Lister's antiseptic plan of dressing to which the reader is referred.

Bed Sores are occasioned by pressure which induces consequent gangrene and sloughing of the parts long lain upon. This should be considered in all cases that require long confinement in bed. The first sign is redness of the skin termed *paratrimma*; they occur about the sacrum and spinal column. Begin with itching, burning, and pricking. Sloughs of a fetid odor and blackish hue follow. The underlying structures being often consumed to the bone. Here prevention is better than cure.

Local Treatment.—Lessen the amount of pressure. Use circular air cushions; hair or water pillows. Bathe the parts with equal parts of arnica and lime-water *before* the integument is broken. Afterwards the remedies recommended in gangrene. Richardson advises spraying the parts with carbolic acid, one one-hundredth, the solvent being *arnicated water* or *hypericum*. Crousel, of St. Petersburg, speaks highly of galvanism. Galvanism is thus applied: Cut a *thin* silver plate of exact size and shape of the ulcer to be covered and a thin zinc plate of exact size and pattern. Then cut a piece of chamois skin to correspond with the plates, immerse it in vinegar, place the silver plate in contact with the ulcer as closely as possible; the zinc plate on the plate above, the chamois skin intervening; connect the two plates by a fine copper wire, six or eight inches in length; keep the chamois skin *moist*. Granulations spring up within 24 hours, and cicatrization begins in 48 hours. It is said to be the best of all methods for the cure of bed sores and old ulcers. Mr. Spencer Wells advocates it as the best means of treating the sloughing sore.

Dipascus Syl.—The leaves dried and rubbed very fine and sprinkled over the gangrenous surface; the parts having been previously cleansed with chlorinated water, has proved efficacious in my hands.

Dr. J. C. Morgan extols local applications of white sugar and glycerine. I have used equal parts of lime water and first dilution of arnica prophylactically, having the parts well bathed with it three or four times a day. Eau de cologne and diluted brandy has been highly recommended. Dr. Brown Sequard applies sponges alternately moistened with hot and cold water. Keep each sponge pressed upon the part for one or two minutes, and continue the process for fifteen minutes at a time. If the suppuration is deep and extensive with fetid exhalations, a charcoal poultice, carbolic acid or a chlorinated solution of soda (Labarraque's solution) may be employed with advantage. For remedies consult gangrene, page 27.

Septicæmia.—*Synonyms:* Traumatic Fever, Pyæmia, Ichoræmia, Surgical fever—formerly pyæmia and phlebitis were con-

sidered the same. The veins were supposed to absorb the infectious material and convey it into the circulation. Billroth proves that healthy pus does produce abnormal manifestations and fever, sometimes inflammation and suppuration when thrown into the circulation. It is of the gravest importance. Is frequent in hospital practice and is apparently contagious in crowded wards and where many wounded are placed together. Since the application of ventilation, drainage, disinfection and cleanliness, it is comparatively rare at the present day. It appears both in acute and chronic types—in the former the system is rapidly overwhelmed, while in the latter the symptoms creep on gradually. It often begins soon after severe surgical operations, rapidly terminates fatally, and is frequently the result of gun shot wounds. The symptoms are at first rigors; the pulse rises high to 130 or 140 beats per minute; the face flushes; respirations are quickened with more or less dyspnœa; diarrhœa supervenes with vomiting; the tongue is dry, shining, and red at the tip. Soon the disease attacks the wound; the pus becomes scanty and thin, and it then quickly extends to the surrounding structures; the color and condition of the skin varies; is of a leaden hue, and is covered with perspiration, often cold, but in some cases quite hot; the glands of the neck, parotid, submental, and those in other parts of the body become inflamed and suppurate. The death of our late lamented President James A. Garfield was principally due to this terrible disease, caused by a gun shot wound. The ball of the assassin entered the abdomen, penetrated and crushed through the anterior portion of the vertebral column, (first lumbar) and became encapsulated in the soft structures, peritoneum. There is great depression of the nervous system; nausea and vomiting frequently accompany it, and is a grave symptom, especially after the first forty-eight hours,—followed by utter prostration, collapse, and death.

In the chronic form the symptoms proceed more slowly. At first the patient is seized with a chill, which from its frequent occurrence, resembles intermittent fever. The wound will now be observed to assume an unhealthy appearance; the pus becomes thinner, acrid, and even corrosive; fever, with slight intermission

sets in; the temperature rises to 104° ; the tongue is furred and dry; eyes are sunken; thirst and restlessness develop, and toxæmia is evident; the patient is half-comatose, from which he can be aroused, but soon lapses into his previous unconscious position; the breath has the peculiar odor of new-mown hay; a marked icterode expression is present, accompanied with profuse sweats, aching in the bones and larger joints. An irritable cough may be present; the urine is scanty, high-colored, and often passed with difficulty; as the disease advances, typhus symptoms, with blotches of a dark purple hue, are observed; secondary abscesses are formed in the lungs, liver or kidneys; emaciation is rapid and death takes place in two or three weeks. Dissection reveals the presence of pus in the blood.

Pathology.—*Emboli*: Pus-cell encapsulated; abscess and disorganization of inner coat of vessels; engorgement; arrested nutrition; molecular disintegration; suppuration; pus circulating in blood, and morbid changes therein; each new abscess is a new point of origin, which disintegrates and increases morbid products.

Treatment.—The success attending the treatment of this disease in the two prevailing schools is largely in favor of Homœopathy. Quiet, rest, a well-regulated diet; ventilation and disinfection must be regarded. Hypericum and calendula lotions applied to the wound; carbolic acid spray frequently employed about the ulcerated parts and bed clothes.

The remedies are *Ac.*, *Arn.*, *Apis.*, *Ars.*, *Canth.*, *Bap.*, *Carbo veg.*, *Lach.*, *Carb. an.*, *China*, *Bell.*, *Gels.*, *Verat. alb.*, *Merc.*, *Mur. ac.*, *Rhus*, *Phos.*, *Muriate of Ammonia*, *Rhus rad.*, etc. Stimulating drinks judiciously employed during treatment are valuable adjuncts to a cure.

Special Indications.—*Ars.*.—Fever, great prostration, fetid breath and sweat, with decomposition of organic material—collapsed features, soporous condition with muttering delirium, grasping at flocks, subsultus tendinum, involuntary, bloody and cadaverous-smelling stools and even gangrenous ulcerations.

Carb. veg..—If symptoms of adynamia prevail, with apathy or sopor, faintness when rising in bed, trembling of the hands on holding any object, also tremulousness of the tongue—sliding down in bed.

Canth..—If a high degree of stupor prevails, skin cool, perspiration clammy, features collapsed, pulse small and filiform, petechiæ, ecchymoses of a bluish gray color.

Ergotin..—Violent nose bleed, vomiting of blood, or hæmorrhages from vagina.

Ferrum met..—Excessive dark hæmorrhages and their consequences, (also Nit. and Sulph. acids).

Moschus..—Long lasting syncope with rapid prostration.

China, and Chinin. ars..—Chills or shiverings succeeded by fever; long continued discharges with prostration. See *Phos.* and *Mur. acid.*

Rhus tox..—If contagion precede and great nervous irritation, dry or burning heat, with systemic irritation, loquacious or noisy delirium, circumscribed redness on cheeks,

great thirst, pulse hurried and feeble, grasping at flocks, subsultus tendinum, catching at imaginary objects, constant desire to get up and dress, petechiæ, blood stools, metcorism and clammy sweats.

Sulph. or Nit. acids.—Excessive hemorrhage, fetid breath; consult typhus. *Arn.*, *Ammon. mur.*, *Ac.*, *Calend.*, *Eucalypt.*, *Lach.*, *Merc.*, *Rhus rad.*, and *Verat vir.*, may be consulted.

Rhus rad.—For chills and sweats; boils over the surface; rheumatic pains, swelling and suppuration of joints, and typhoid symptoms.

Tart. emetic and Ziuicum—Have controlled in my hands the nausea and irritability of the stomach. Iced champagne has given me good results.

Local Treatment.—If the wound is not open, cut out sutures, remove straps and bandages, spray wound with lotions of carbolic acid or calendula, vinegar or wine; sponging to surface. Transfusion and oxygen gas may be employed as a last resort.

Hectic Fever is a peculiar type of fever with frequent remissions during the middle of the day, with profuse sweats following slight chilliness every day, shuddering, dry mouth, hot skin and breath, palms of the hands and soles of the feet burn, characteristic scarlet upon one or both cheeks, pulse over 100, temperature 101° ; this lasts a few hours, and is succeeded by *colliquative* sweats or diarrhœa; between paroxysms patient is comfortable; emaciation continues; countenance becomes hippocratic; system exhausted with fatal prostration.

This fever frequently follows operations, or may be caused by continued drainage from disease.

Treatment must be conducted upon general principles and the effort of the surgeon must be to remove the exciting cause, and the remedy selected according to totality of symptoms. The most prominent remedies are *Ac. phos.*, *China.*, *Hepar s.*, *Samb.*, *Stan.* Consult the materia medica as to indications. If it is the result of preexisting disease, attention must be directed to the causes, which are numerous. The symptoms should be carefully considered, the pathological conditions investigated, and organic disturbances attended to. If the system and other conditions are favorable, the affected parts should be removed.

CHAPTER II.

EFFECTS OF HEAT AND COLD.

Burns and Scalds.—Heat, communicated from solid bodies causes burns, from fluid or gaseous bodies, produces scalds. Severity of burns depends upon the intensity of heat and duration of contact. Heated bodies injure more than heated liquids. The former char and extend deep into the structures. The latter spread and have more surface extent.

Varieties of forms are: 1st. Increased vascularity with slight inflammation of integument, unattended by vesication; tends to resolution. 2d. Vesicular, in which the cuticle is blistered, followed by ulceration. 3d. Death of the part burned; mortification. Dupuytren classifies them into six degrees: 1st. When the cuticle is merely scorched. 2d. When it is raised in blisters. 3d. When the cutis vera is more or less destroyed. 4th. When the cuticle and true skin is involved, reaching to the sub-cutaneous cellular tissue. 5th. When the muscles and fasciae are involved. 6th. When the whole thickness of structures is implicated with carbonization of the osseous tissue.

Effects of heat are dangerous according to intensity and extent of surface; are more serious upon the head and face and trunk, than upon the extremities. Children and old persons, and those of impaired health, suffer more than the middle aged. There are three stages of constitutional disturbance: 1st. Shock. 2d. Reaction and inflammation. 3d. Suppuration and exhaustion. Effects of shock are depression and congestion, with cold, shivering and collapse, which lasts from 36 to 48 hours; death in children is caused by coma. Reaction and inflammation takes place from the second day to the second week, and may be accompanied by sympathetic fever, inflammation of thoracic and abdominal organs, perforating ulcer of the duodenum, peritonitis and death, suppuration and exhaustion, hectic fever or pyæmia, congestion of the lungs or pleura, constitutional irritation, from long continued and exhaustive discharges.

Scalds effect extent of surface rather than depth, and the skin when affected to any considerable extent on account of its being richly endowed with nerves, implicates internal organs; appearance of the hair will determine the difference between burns and scalds. Scalds of the first-class, covering one-half of body may prove fatal. Second class, one-quarter of the body likely to produce death, and those of the third class are apt to produce death if one square foot of the body is affected.

Treatment of burns is constitutional and local. The first thing to be done is to bring about reaction and relieve constitutional disturbances, for which either of the following remedies may be used: *Ac.*, *Arn.*, *Carb. veg.*, *Coffea*, *China*, *Caut.*, *Hepar s.*, *Phos.*

Special Indications.—Phos. ac.—When there is hot skin, thirst, hard and frequent pulse.

Arn.—To allay extreme sensibility, general restlessness and intense pain at the seat of injury.

Ars.—If ulcers form and gangrene threatens.

Coffea.—To promote sleep and allay nervous excitement.

Caut.—For old burns, burns of the lips and tongue.

Carbo. veg.—In those extreme cases where the shock is so excessive as to threaten complete extinction of life. (See Secale).

Local Treatment is to apply warm applications, preserve an uniform temperature, and prevent contact of air with the wound. Applications of *Canth.*, *Rhus rad.*, *Urtica urens*, and *Terebinth*, (1 ounce of the tincture to 4 ounces of water), are our most valuable remedies. Dr. Ludlam recommends *urtica urens* and olive oil mixed, one dram of the tincture to 8 ounces of oil. Apply pledgets saturated with the mixture to the part. Cleghorn advises warm vinegar, creosote water (one dram to one pint of water) as a valuable remedy. *Bi carb. Soda* is much admired. Glycerine and albumen, Carron oil, Petroleum, Cosmoline, Collodion, cotton in thick layer, carbonated cotton, and the dry earth treatment have their advocates. Prick vesicles with fine needle. Cicatrices are serious and should be prevented if possible during treatment by resistant forces, such as adhesive strips, bandages, etc., etc. The contraction in cicatrices following burns and scalds is greater than that of any other cicatrices; deformities are excessive. Great care is required in burns near orifices; burns on the fingers should be carefully watched to prevent contraction. Operations on cicatrices, according to Dupuytren's three rules: 1st. *Wait* at least one year. 2d. Never operate unless certain of

obtaining larger cicatrix than previous one. 3d. Improper in anchylosis.

Effects of Cold are both constitutional and local. 1st. Irresistible desire to sleep, congestion of brain, surface pale and cold, pulse feeble, respiration almost imperceptible, pupils dilated, tetanic spasms. At the siege of Corinth in 1862, few soldiers at the front suffered from frost bite, though the cold was severe, thermometer, 12°. At more remote parts of the lines, where fires were allowed, the men suffered seriously from frost bite. Alternation of temperature from cold to warm increases liability to frost bite; also damp and cold air.

2d. Effects of cold are divided into *Pernio* or Chilblain, and Frost Bite. *Pernio*, slight degree of inflammation from sudden alternations of temperature, atonic inflammation of the skin; delicate persons suffer in damp and cold weather by putting their feet to fires after coming in from the cold. Three degrees: 1st: Skin red in patches and swollen, burning, itching or tingling pain. 2d. Vesications, skin bluish and purple. 3d. Ulceration or sloughing, which is superficial, is often met with in this climate in winter; disappears in summer, returns again in early winter; appears in persons of weak digestion, having dyspepsia and imperfect circulation; attacks the nose, ears, toes, fingers and heels. Tingling, burning, and itching; vesicles form and contain a serous fluid, terminate in sores; difficult to cure.

Treatment.—Constitutional remedies are: *Agaric.*, *Canth.*, *Arn.*, *Ars.*, *Bell.*, *Camph.*, *Nux vom.*, *Rhus tox.*, *Puls.*, *Nit. ac.*, as indicated.

Particular indications.—*Bell.*, *Puls.*, *Kali c.*, for chilblains of a bluish appearance. *Cyc.*, *Lyc.*, and *Nux*, for bright red; if very painful; *Bell.*, *Puls.*, *Petrol.*; if inflamed, *Ham.*, *Ars.*, and *Puls.*; if ulcerated, *Ars.*, *Puls.*, *Carb. v.*, and *Petrol.*; if gangrenous, *Ars.* and *Lach.*; *Nit. ac.* when there exists much swelling and pain; *Rhus tox.*, burning and itching in the after part of the day, disposition to scratch, with blotches intervening.

Chilblains.—Bathe the feet or other parts in cool water, and rub with a coarse towel, hair glove or flesh brush; cosmoline applied externally; effects of stimulants are pernicious. Apply

Iodine applications: Iod., 1 part, Ether, 30, and Collodion, 100 by weight.

Frost Bite affects the nose, ears, toes, fingers and heels.

Symptoms.—1st. Affected part has a dull red color caused by deficient supply of arterial blood and stagnation in the veins. If cold continues, venous blood will be gradually expelled by tissue contractility; part feels stiff, livid color, numb and shrunken, sensibility and motion are lost; gangrene threatens. Frost bitten patient is unconscious, powers of life gradually cease, person grows feeble and languid inclining to sleep; becomes comatose and dies. Evil effects of stimulants in coma. Artificial respiration and friction, in severe cases.

Local Treatment.—Local friction of snow in Pernio; coma induced by cold, friction with flannel over the whole surface; put patient to bed in room of moderate temperature.

Treatment.—Internal Remedies—*Agar.*, *Arn.*, *Arsen.*, *Kali carb.*, *Nit. ac.*, *Nux vom.*, *Puls.*, *Rhus tox.*, *Petrol.*, *Zinc.*, *Sulph.*

Vesications: *Ars.*, *Lach.*, *Rhus. tox.*, *Carbo veg.* Chilblains returning with every cold change: *Petrol* or *Nitric acid*. Ulcerations: *Hepar*, *Merc.*, *Calc.*, *Calend.*, *Sil.* Chilblains on feet and hands: *Ant. c.*, *Zinc.*, *Sulph.*

Local Treatment.—Frozen feet to be warmed from *within* outward, support patients strength. In sphacelus, amputate above line of demarkation, in sound tissues.

In suspended animation from long exposure to cold, put the patient in cool room, friction, warm stimulating drinks.

SECTION I.

SPECIFIC FORMS OF INFLAMMATION.

Furunculus or Boil.—Furunculus is a hard red and circumscribed tumor, painful, ending in suppuration; inflammation of a sthenic type, blood vitiated, skin and areolar tissue involved, discharges thin, flaky lymph, areolar tissue disorganized and forms a core; appears often every spring, from high living in winter;

sometimes succeeds febrile diseases, then they are critical. Appears in young and vigorous persons with gastric and hepatic disorders; also induced by climatic changes, errors in diet, etc. When they appear in the spring, are multiple; if left to itself bursts at its apex; matter exudes; core remains; inflammation then abates; remove slough. They appear at the climacteric age; also caused by teething, pubescence, etc.

Treatment.—Correct system, poultice with: *Calc. mur.* two drams to two ounces of water.

Remedies are. *Arn.*, *Bell.*, *Sil.*, *Ars.*, *Cap.*, *Hydrast.*, *Hepar*, *Kali jod.*, *Picric Acid.*, *Chin.*, *Phytol.*, *Kali c.*, *Sulph.* Fill cavity with lint wet with Calend, retard when small, *Nit. Argent.* To eradicate predisposition, *Arn.*, *Berberis vulg.*, *Calc.*, *Lyc.*, *Nux.*, *Phos.*, *Mur. ac.*, *Sulph.* Large boils with excessive suppuration: *H par.*, *Lyc.*, *Nit. ac.*, *Sil.*, *Phos.*, *Tart. emet.* Small ones: *Arn.*, *Bell.*, *Hepar.*, *Picric ac.*, *Sulph.*, *Zinc.* When suppuration progresses slowly, *Hepar*; to abort suppuration, *Merc.*; Itching and burning, *Ant. c.*, *Carbo v.*, *Thuja.*; Stinging. *Lyc.*, and *Arn.* Hale recommends *Ascep.*, *Erigeron.*, *Graph.*, *Phy.*, *Iris. ver.*, *Stilling.*

SECTION II.

Anthrax, or Carbuncle, is of an asthenic type, and may be termed a malignant boil. It is rare in young people; occurs more frequently in the middle period of life, in the irritable and debilitated. It begins as a hard, dull red swelling, tender and painful; in a few days of increase it becomes a broad, flat tumor, doughy, and livid color, softening and suppuration takes place, giving exit to a thin ichor, and if pressure is made, a thick glutinous matter exudes; ulcerated apertures enlarge, with sloughing of the areolar tissue, indicating vitiated blood; is often attended with fever.

Pathology.—Inflammation of the radicals or prolongations of the sub-cutaneous areolar tissue dipping down into the deeper structures; the skeleton tissue. It varies in size from that of a half dollar to a dinner plate; occurs more frequently on the back,

nape of neck and nates; after hardness passes away, becomes soft and quaggy with a number of sinuses, which emit a thin discharge likened unto flour and water mixed.

Treatment.—1st. Remove constitutional faults. 2d. Favor suppurative process and restore healthy action. Give *Bry.*, *Ars.*, *Bell.*, *Rhus*, *Apis.*, *Anthracin.*, *Sil.*, *Lach.*, *China*, *Pyrola rotund.*, *Calc. mur.*, *Mur. ac.*, *Hyos.*, *Kreas.*

Special Indications.—*Arn.*—As a prophylactic in the beginning.

Ars.—Intense burning, a sensation as if boiling water was running beneath the integument; pulse small, irregular and frequent with cold sweats; persons of a nervous choleric temperament, who have suffered long emaciation, vomiting of fluids, burning thirst, or bilious diarrhoea, fever, prostration, malignant cases.

Bell.—When cerebral symptoms appear, red face, shining eyes, and severe heat; tendency to erysipelatous inflammation; parts red and swollen.

China.—When asthenic symptoms are strongly marked; loss of blood or miasm influencing the disease; exhaustion; pyæmic symptoms.

Hyos.—In nervous or hysterical persons; coma, vigil or great restlessness; optical illusions; tumors; constriction of pharynx; itching of the part.

Lach.—Prostration with nervous and vascular erethism; parts look purplish with blebs here and there. (See creasote).

Mur. ac.—In scrofulous persons, with ulcers on the gums; feeling of emptiness in the stomach; frequent desire to urinate, profuse clear urine.

Rhus tox.—Burning and itching around the carbuncle, vertigo, stupor, pale face, frequent pulse.

Merc.—If disease is tardy; with considerable inflammation, followed by Hepar s.

Sil.—After suppuration has fairly set in.

Local Treatment.—Open and let out discharges. Paget opposes free incisions. Helmuth agrees; only incise sufficiently to remove slough; remove with forceps. Apply poultices of ground flax seed, or elm bark, charcoal or yeast, strips of cloth dipped in a solution of muriate of lime and applied constantly.

CHAPTER III.

INJURIES AND DISEASES OF ARTERIES.

Arteries are liable to inflammation, suppuration or ulceration, which may be *limited* or *diffuse*. In the former both its coats and the blood itself are altered; plasma is thrown out; the vessel loses its resiliency, becomes fragile, and a clot of decolorized fibrine is formed that occludes the vessel; *Embolism*. In the diffuse variety, the inflammatory action is more extended, but there is no plastic exudation.

Symptoms.—Local pain and tenderness extending along the artery which feels hard and tense, the parts it supplies may become cold and numb, and show signs of gangrene.

Periangioma is a peculiar disease affecting the outer coats of the vessels; is a new growth and forms a tumor on the scalp, in which the vessels are enlarged and ramify in the structure of the outer coat. (See part II, p. 191, affections of blood vessels).

Treatment.—*Ac.*, *Ars.*, *Bell.*, *Carbo. veg.*, *Gels.*, *Sec.*, *Dig.*, *Lyc.*, *Puls.*, *Plumb.*, *Sepia.*, *Spig.*

Special Indications.—**Ars.**—In chronic arteritis, tenderness and pain in the large arteries, with plastic exudation; arseniate of antimony has been highly recommended in the lower triturations; gangrenous inflammation.

Acon.—In the lower dilutions and frequently repeated has done good service in acute arteritis. *Dig* in arteritis threatening to terminate in atheromatous disorders.

Phos.—In atheroma, with primary fatty degeneration; it retards calcareous degeneration of arteries. *Ammon brom.* to promote absorption of atheromatous deposit.

Spig.—Pain in the large arteries of a chronic type, extending along the artery.

Kali hyd.—In arteritis with syphilitic or mercurial taints.

Plumb.—In atheroma, with general chronic endo-arteritis.

Secale.—In senile gangrene, involving arterial branches.

Verat. ver.—In recent arteritis to control arterial excitement, prevent atheromatous deposits. *Bell.*, *Arn.*, *Gels.*, *Cale*, *Phos.*, *Lyc.*, *Nal.*, *Sulph.* may be consulted.

Atheroma is a degeneration of the coats of an artery and the formation of a soft, granular and pappy deposit within its coats, having its seat near the mouth of the larger vessels. This deposit gradually extends until large, irregular yellow colored patches of a cheesy consistence are formed. It sometimes is converted into a tough grayish membrane—steatomatous—gradually the middle coat becomes involved.

Calcareous degeneration is the final result of this process, in which calcareous material is deposited in the arterial coats, consisting of carbonate and phosphate of lime. This renders the tube brittle, is apt to give way and causes the severe and sometimes

fatal hemorrhage after surgical operations. This is a fruitful source of disease which in old age may cause death in many ways.

Embolism is the occluding of an artery by some foreign material. It may be produced by a dislodged atheromatous patch forced along the vessel and lodged near a bifurcation; a fibrous clot may be driven from the heart, or some foreign substance may lodge in a vessel and form a nucleus for a clot; it has occurred after fracture in puerperal women, and in endocarditis and is the cause of sudden death in such cases.

Symptoms.—Severe pain at the point of occlusion; the part becomes swollen, blue and insensible, followed by gangrene. If the collateral circulation is active, mortification may be prevented; *hemiplegia* results and death follows.

Treatment.—Attention should be given to its predisposing and exciting causes. Study out the symptoms carefully, and prescribe understandingly either of the following: *Ca'c. Graph.*, *Con.*, *Benzoic ac.*, *Kali. iod.*, *Lyc.*, *Sil.*, *Ergotine.*, *Baryt.*, *Sulph. ac.*

Surgical Treatment.—External heat, friction, position, electro-magnetism, and finally amputation. See gangrene.

Hemorrhage is of three kinds: *Arterial*, *Venous* and *Capillary*. In arterial, the blood *leaps* forth in bright red jets. In venous, it *well*s out in a dark purple stream. In capillary, it oozes from the general surface. It is also primary and secondary as regards the time after wounds are inflicted; if *immediate*, it is primary; if *subsequently*, secondary.

Arterial.—*Natural arrest*.—When an artery is cut across, its coats *contract* upon itself, and *retract* within its sheath; caliber current is diminished, sheath retracts a little, forming a cylinder about the vessel which is filled by coagula, causing filaments of fibrine which adhere to the vessel's walls. This coagulum occludes the mouth of vessel; the slower the blood flows, the greater the quantity of coagula, and vice versa. The coagulum *within* the artery, (*bouchon*) is of a conical shape, with the apex upwards; that on the outside is called *couverete*. Fibrine is also deposited on the lining membrane of the artery adjacent to the cut end; the arterial coats contracting, blend

together the two clots formed within the vessel, the *internal* coagulum, and the *secondary* internal clot; the fibrine becoming organized into fibro-cellular tissue leaves in a little while nothing but a fibrous cord, which permanently occludes the artery.

Torn Artery.—In case of a *torn* artery, the two *inner* coats yield to the force before the outer gives way. The outer coat is thus drawn to a point beyond the inner ones, which forms a double barrier to the flow of blood; first by the outer coat, and secondly by the sheath; a conical clot with its apex downwards forms in the space between the two inner and the outer coats, while in the artery itself, a conical clot forms with the apex upwards; subsequent changes occur as in the case of cut artery.

Wounded Artery.—In an artery *partially* divided, the blood poured out at the opening lodges in the sheath and adjacent tissues, coagulates and presses upon the artery reducing its calibre and altering its relative position to the wound, thus arresting hemorrhage; permanent closure takes place by adhesive inflammation in the wound itself.

Artificial Arrest.—*Hæmostatics* artificially employed are: position, cold, pressure by the fingers, compress or tourniquet, and secured by a nodose bandage. *Styptics*, these are *Monsel's salt*, *Local Anæsthesia*, *Alum*, *Rhatany*, *Matico.*, *Erigeron*, *Cuprum sulph.*, *Styptic Collodion*,* *Chloride of Iron and Cotton.*, *Nit. Argent.* † *Benzoic acid* and *Alum*. Forced flexion, permanent compression, torsion, acupressure, circumclusion, torsocclusion and retroclusion, ligature and tourniquet.

Secondary Arterial Hemorrhage, or bleeding that occurs after it has been once stopped, may take place at various periods, that which comes on after an operation or accident, when the patient gets warm in bed and recovers from the shock imposed, is more properly called “reactionary hæmorrhage;” or it may take place from sloughs and the opening of vessels in the wound; this hemorrhage requires styptics, pressure, or the ligature. Bleeding may also come on after separation of the ligature around the artery, by ulceration and opening the vessel; in this,

*Boil the cotton one hour in weak solution of soda, 4 per cent.; wash in cold water and when dry, steep in liquid chloride of iron, $\frac{1}{4}$ dilute water; press and dry in air.

†Benzoic, 1 part; sulph., alum and potassa, each 3 parts; ergotine, 3 parts; water, 24 parts. Boil and stir for one-half hour, replacing water evaporated. It is of a brown color when properly made.

the artery is to be secured higher up in the wound, or by a fresh incision.

Venous Hemorrhage may be arrested by pressure of the vein at its distal side provided there is no constriction of the vein above the seat of injury; much less force is required to control a bleeding vein than an artery. When a large vein bleeds from an exposed surface it may be closed by a ligature, but as a rule the tying of veins should be prohibited except under peculiar circumstances.

Capillary hemorrhage is readily arrested by exposing the surface to the air, by applying cold water, by pressure, or by styptics.

Hemorrhagic Diathesis.—Persons of hemorrhagic diathesis, hereditary or acquired, are prone to lose blood from the slightest cause. **Hæmophilia.**—This is owing, 1st, to loss of contractile power in the vessels, occasioning a deficient supply of plasma in the blood; 2d, to peripheral paralysis of the vasa vasorum; more frequently seen in males.

Treatment.—For *active* hemorrhage are the following remedies: *Ac.*, *Ars.*, *Bell.*, *Dulc.*, *Eucal.*, *Hyos.*, *Chin.*, *Sabin.*, *Spig.*, *Secale.*, *Nux. v.*, *Millefol.*, *Phos.*, *Cact. Ledum.*, *Terebinth.*, *Carb. veg.*, *Opium*, *Verat. vir.*, *Diadema*. For *passive* hemorrhage, the following: *Arn.*, *Bell.*, *Chin.*, *Cham.*, *Collins*, *Croc.*, *Ham.*, *Iris. v.*, *Puls.*, *Sepia.*, *Acid gall.*, *Acid sulph.*, *Ferrum. perch.*, *Ferr. acet.*, *Acid phos.*, *Erig.*, *Trill.*, *Uran. nit.*

In hemorrhage from large vessels, internal medication is not to be depended on alone. The following remedies are recommended according to their

Special Indications.—**Acon.**—Hemorrhages, occurring particularly at night, or if caused by anger or fright, patient can't lie on either side, and is either really worse, or made to feel worse from rising, the flow is constant, and coagulates into a mass; thirst, dry skin, restlessness, dark hair, plethoric habit, especially in young people; mental symptoms: fear of death, of moving or turning, or rising, lest something may happen, etc.; no peace of mind.

Arnica.—Bleeding is caused by injury; concussion, fatigue; patient feels a soreness as from a bruise in the part whence the blood issues; hot head and cool body; pain causes a rush of blood to the head, which feels very hot to the patient; bleeding constant, and bright red; head sensitive; headache.

Bell.—Blood coagulates easily and feels hot to the parts through which it passes; congestion to head, eyes, eye-balls, which are red; flushed face; patient can't bear the least jar of the floor; wishes to drink much and often; wishes to be covered warmly, and even then may have cold chills pass through the body; feels worse, or is worse in the afternoon or evening, from a draught of air; from rising, in plethoric people with red faces.

Canth.—Hemorrhage from any part, if attended with cutting and burning pains.

Carbo veg.—Collapse; desire to be fanned hard and continually; skin dry, cold, and bluish; anguish of heart; blood bright red; rigid fibre; cold breath; pulse weak and irregular.

China.—Ringing in the ears as of bells; fainting spells; pulse irregular, flickering, imperceptible; skin cold and clammy; unconsciousness; worse periodically in the night after drinking, whilst talking, from touching the parts softly.

Crocus.—The blood forms into long black strings, as it escapes from inner parts; worse in the morning, better in the open air.

Ferrum.—Great erethism of the circulation; red face and full pulse; blood partly fluid and partly clotted, black, very weak; having flushed face and full pulse.

Hyos.—A constant flow of bright red blood, with flushed face, congested eyes; twitching of the muscles; delirium; unconsciousness.

Ipec.—Constant flow of bright red blood; constant nausea; pain about the umbilicus; cold skin, cold sweat, suffocating spells and dyspœna. Worse periodically, from vomiting, coughing, from suppressed eruptions.

Kali Carb.—Hemorrhages attended with stitching pains. Worse after reaction, after being over heated, from lying on the side; better from warmth, from eructations.

Lyc.—Hemorrhages, accompanied with a sensation of fullness up to the throat; desire to be fanned continually day and night; desire for more air; palpitation and dyspnœa; cutting pains from right to left in abdomen; can not lie on either side.

Nitric Acid.—Epistaxis; hæmoptysis; suits dark haired persons with rigid skin and muscles; no thirst; blood dark.

Opium.—Dark blood flowing from newly opened wounds.

Phos.—Small wounds or orifices bleed profusely; tall slim persons with black hair; worse from lying on left side or back; from warm food or warm drinks; from being rubbed after sleep; erectile tumors; amelioration after sleep.

Platina.—Blood flows in thick clots and fluids, or in one grumous mass, thick black and tarry; feeling of horror of what may happen, as thought of death, etc.; sensation of growing larger in every direction.

Puls.—Fearful and gentle disposition; flow of blood intermits, and is in clots and fluids, mixed; can not bear a close room, must have plenty of air; no thirst.

Scute.—Passive hemorrhage; blood dark or red in feeble cachectic persons, accompanied by tingling in the limbs and prostration; desire for air; does not like to be covered, wishes to have the limbs extended; skin cold.

Septa.—Sensation of weight in the part from which the blood flows; empty feeling in the pit of the stomach; better from drawing up the limbs.

Sulphur.—Sensation of heat in the part from which the blood flows; worse when warm in bed or when exposed to heat.

CHAPTER IV.

INJURIES OF THE SOFT STRUCTURES.

Shock is the result of a severe injury to the nervous system. It may be produced by certain diseased conditions without traumatism; called also prostration or collapse, and is divided into *primary* and *secondary* shock, in reference to the time intervening after injury.

Primary.—In *primary* shock, patient lies in a helpless, half unconscious state; pulse is quick, small and almost imperceptible; patient cold, faint and trembling; the surface is cold, shivering and covered with a clammy sweat; features are pinched; expression anxious; eyes vacant and partially glazed; breathing irregular and sighing with hiccough, perhaps vomiting which is favorable, and relaxation of the sphincters. These symptoms are sometimes accompanied with convulsions in children. The duration varies, depending upon nervous susceptibility, and extent of injury. In extreme cases death may occur; in milder cases, reaction comes on either naturally or artificially, with a gradual revivification of the ordinary functions of the nervous and vascular symptoms. As reaction advances, the pulsations of the heart increase, the pulse loses its “whirr,” temperature increases, the skin loses its pallor; the eyes become more natural in expression, warmth is gradually diffused, respirations are long drawn, restlessness is developed, and fever sets in with all its concomitant symptoms.

Secondary Shock, produced by injuries, operations, etc., is not so marked in its characteristics as the primary; comes on insidiously, patient becomes weak, mind active, pulse moderately good, countenance dejected, skin sallow, functions of different organs impaired, suddenly a change takes place, and the patient falls into a condition similar to the active form. Different temperaments suffer in different degrees; this is especially noticeable in gun shot and railway injuries. Mental emotions, impaired constitutions, debauchery, advanced years, and excesses of all kinds act as predisposing causes producing shock.

Treatment is to ascertain the condition of the heart; if *simple*, encouragement, reassurance, a little stimulant, rest in the recumbent position, hot water to the epigastrium and to the extremities, and an extra blanket will suffice for restoration. In extreme cases where the heart ceases to perform its functions, *electricity*, with friction to extremities, and artificial respiration, stimulating enemmas, warm applications, ammonia to the nose, and *veratrum* given internally by mouth or rectum will in almost every case restore the patient. *Ars.*, *Chin.*, *Hyperic.*, *Camph.*, *China*, *Opium*, *Dig.*, *Ammon. caust.*, *Carbo. veg.*, *Phos. ac.*, *Gels.*, *B ll.*, *Verat. vir.* *Ac.* may be employed after reaction has been established to moderate the same, and keep it within health limits. If stimulants are used in the stage of collapse, their effects must be carefully watched. If wound exists, it should be washed and treated in the ordinary way. In extreme cases recourse may be had to stimulating enemmas, rubefacients, friction, or galvanism, to restore the shattered organism. *Ammonia* applied to the nostrils, if the patient is in a state of insensibility that precludes the use of medicines by the mouth. The remedies employed will be selected according to the following: *Veratrum* should be given internally, and I have used injections of this remedy into the rectum as auxillary means with success. After reaction is partially restored, *Arnica* should be given internally and applied locally to the injured part in the form of a lotion (*Arnica* 1 ounce, *Aqua* 9 ounces). If active inflammation sets in, *Ac.* becomes our chief reliance, and *Bell.* when internal congestion takes place. If great loss of blood attends the shock, *China* should be administered. If syncope threatens, *Ars.* is a valuable remedy.

Special Indications.—*Arnica* is one of the most reliable remedies in all forms of concussion following injuries, in complete stupefaction, muttering, low delirium, loss of sight and hearing, unconsciousness, in fact all cases when insensibility is not complete. It should be given every ten, fifteen, or twenty minutes, according to the severity of the shock until reaction has been completely established. In severe cases, it will prevent many of the evil consequences that may result, by its controlling influence over the cerebral vessels, and will prevent the extravasation of blood within the cavity of the cranium.

Veratrum is indicated in the more profound insensibilities and when *Arnica* has been tried without beneficial effects. It is especially indicated when there is coldness of the extremities, with pallor of the face and distortion of the features, relaxed muscles, tetanic spasms, imperceptible breathing, complete loss of consciousness. Eyes insensible to light, cold sweat on the face and extremities, hippocratic countenance.

Opium is beneficial in restoring the reactive power of the organism and is especially indicated in a comatose condition, accompanied with stertorous breathing; red, bloated face, with frequent quiverings of the lips, full, slow pulse; with profuse, warm sweat, unconscious; with eyes half-closed and glassy.

Camphor.—This remedy, says Prof. J. C. Morgan, has done me good service in shock of injury, giving relief in a few minutes. After sudden injury, body cold and clammy; face, bluish and pale; lips livid and pulse feeble; respiration slow and sighing; stupefaction.

Ammon Caust.—When tissues of organic life were specially and severely involved, has also done good service. *Capitum Calamus*, *Capitum digitalis* and *Phosphorus*, *Nux moschata*, *Strontian* and *Carbo. veg.* may be consulted in addition to those above named.

Carbo. veg.—Stupor hardly yielding to stimulants; colliquative diarrhœa; cold sweats; rattling breathing; stagnant circulation; frequent, filiform pulse.

Belladon.—The active principle of this remedy has been employed from time to time in collapse, by Dr. Hodgen, of St. Louis, who employed it in doses of 1-60 to 1-30 of a grain dissolved in water and deposited under the skin by means of a **hypodermic** syringe. Dr. Weber has quite recently employed Bell. for the same purpose and highly endorses its therapeutic value both in shock and collapse.

China.—Prostration of the vital forces after hemorrhages or exhausting discharges; systemic complications; pale and bloated face; digestive derangements; emaciation and gradual prostration.

Hypericum perf.—Of the virtues of this remedy in shock, Dr. T. L. Brown, of Binghamton, Vt., thus writes: "Of *Hypericum perf.* I can speak with enthusiasm. The use of it was first suggested to me by Dr. Lippe, and since that time a single dose of the 200 potency has never failed to give almost instantaneous relief to the pain resulting from the injury of parts rich in nerves." Shuddering all over, lacerated and torn wounds; when nervous tissues are most concerned; scalp wounds, and in richly endowed *ne vous parts*.

Stimulants.—The propriety of giving alcoholic stimulants in shock is a matter much discussed by different surgeons. It used to be the practice to administer stimulants in all degrees and conditions of shock, but I think the more conservative spirit of the age and the occasional serious results that have followed its use, have to a large extent opposed its general employment. In my observations, both in civil and army life, I have seen much evil follow its indiscriminate use and I am equally sure that the remedies recommended above are amply sufficient for all conditions incident to shock.

SECTION I.

WOUNDS IN GENERAL.

Special Wounds are divided into *incised*, *lacerated*, *contused*, *punctured*, *penetrating*, *poisoned*, and *gun shot*.

Incised are inflicted by a sharp cutting instrument, and is the simplest of all the varieties. They present clean cut surfaces, favorable for immediate union, or union by the first intention. The chief danger is from hemorrhage. They are *simple* when they implicate integument and muscle, and *complicated* with injury of the larger vessels or nerves, or of important organs.

Treatment.—When the flow of blood has ceased, the wound should be freed from all extraneous matter, the edges brought into perfect apposition, and if simple, held in situ by small strips of plaster, a film of collodion, or a pledget wetted with *Hyperic* lotion and a roller over all. If the wound is deep, the edges should be drawn together by deep sutures, the invaginated bandage, or strips of adhesive plaster dove-tailed together, having the broad surface applied to either side of the wound. The single attached ends pass by each other; the edges of the wound are brought together; the firmness of the apposition may be secured by a silver wire or whale tendon suture or two, which do not antagonize union by adhesion. Hemorrhage depends upon the vascularity of the part; the separation being due to tension and vital contractility. The *serrafine* is appropriate when very

accurate union is required as in cuts about the face. If sutures are required, the silver wire, the antiseptic cat gut, or the whale tendon are preferable. Needles and the figure of 8, the quilled sutures, the continuous or the interrupted suture may be employed according to circumstances. The dry suture of Dr. Packard for wounds about the face is valuable. This is made of two wide strips of adhesive plaster applied to either side of the wound and the edges sewed together instead of the skin. Due attention should be given to constitutional treatment and the removal of all sources of irritation from the system. Here *Ac.* will accomplish a great object. (See the article on Hemorrhage). Locally apply Hypericum or Staphysagria lotion. For hemorrhage following wounds see page 42.

Lacerated Wounds are torn rather than cut and are inflicted by blunt edged instruments. There is no fear of hemorrhage, as torn vessels soon cease to bleed. In all lacerated wounds, the vitality of the parts injured are more or less impaired by the contusion. This produces sloughing; suppuration is in progress and union by primary adhesion is impossible. The extent of sloughing will depend upon the amount of contusion and the nature of the structure injured. The face, hands, scalp, and other highly vascular parts are less prone to slough than parts less vitalized. Erysipelas, gangrene and tetanus are prone to occur after lacerations.

Treatment is to cleanse the part, to replace the two opposing surfaces as accurately as possible; this may be effected by the same process mentioned in incised wounds. Employ no sutures except the carbolized cat gut, the whale tendon or the silver wire, and as few of these as possible; maintain replacement by adhesive strips, and by all means apply warm pledgets of *Hypericum* lotion, which I have proved to be as curative in lacerated wounds, as Calendula is in suppurating surfaces. In fact I have seen the most remarkable and prompt curative effects follow the use of this remedy. If erysipelas occurs the remedies for that condition must be employed immediately. They are *Ac.*, *Apis.*, *Arn.*, *Bell.*, *Canth.*, *Rhus.* If high fever, *Ac.* If gangrene, *Ars.*, *Lach.*, and *Chin.* If ligaments are injured, *Rhus.*, *Ruta.*, and *Rhodod.* For periostial trouble, *Mez.*, *Phos. ac.*, *Ruta.*, and *Rhodod.* See hemorrhage, page 40.

Contused Wounds are when bruising and pulpification of the parts are the most prominent characteristics, without rupture of the integument—when the tissues are broken it constitutes a lacerated wound. There is ecchymosis, effusion of blood and serum into the subjacent tissues by laceration of their coats, with a tendency to ulceration, sloughing and gangrene, in cachectic constitutions; secondary hemorrhage is liable to occur.

Treatment is to prevent further infiltration into the tissues and to promote absorption of the fluids already escaped. Here *Arn.* is the great specific and is worth all other remedies put together. It should be applied *warm* and be frequently renewed. Complications must be met as they arise, by appropriate remedies.

Punctured Wounds are those made by a sharp pointed instrument, and are deep as compared with their surface extent; are dangerous because of the injury inflicted upon important structures beneath. It was formerly the custom to convert all punctured wounds into incised ones. The pain is severe through nerve lesion and the bruised condition of the tissues. The most frequent and severe punctured wounds are made by pins, needles, nails, thorns, splinters, etc. Needles penetrate easily and advance rapidly, and no operation should be performed for their removal till the surgeon is positive of its exact presence, then make a free incision over it and remove with fine forceps. In punctured wounds where a considerable artery has been divided, or where a portion of the weapon remains in the wound, the original wound may be enlarged, the artery tied and the weapon removed.

Treatment.—Tetanus and erysipelas are prone to follow this injury and should be carefully guarded against till after the ninth day. If any lodgment of weapon, pieces of clothes, or other foreign substance lie imbedded deep in the tissues, they must be removed *first*, then check hemorrhage, moderate inflammation and prevent the development of nervous symptoms. The wound ordinarily may be approximated by *pads* and *bandages* throughout its whole extent, so as to secure if possible union by adhesive inflammation. In earlier times “suckers” were used to draw out the extravasated blood; a small drainage tube may be often employed. Antiseptic lotions are sometimes called for. In case

of hemorrhage and systemic implications see hemorrhage page 40. *Ledum* internally and externally is the remedy par excellence. Apply it locally by means of a pledget and roller. Meet other indications as they develop. If wound does not heal by adhesion, heal from bottom and keep wound open.

Poisoned Wounds are those produced by certain noxious irritating matters introduced into the system. They may be incised, lacerated or punctured, and their essential character is the poisonous material introduced into the blood, through which the whole system may be involved even to the production of death.

Characteristics.—The constitutional effects in severe cases from serpent bites, are delirium, violent inflammation, erysipelas, followed by ulceration and sloughing; pain at part bitten is burning, and tingling, accompanied by a brief spasm, with rapid swelling, diffuse inflammation, gangrene and death. The constitutional symptoms are great depression, nervous prostration, feeble and intermittent pulse, dilated pupils, delirium, stupor and insensibility; less severe cases develop tardily and there is a vesicle and sore; prognosis should be guarded.

Treatment.—First, to prevent absorption, and second, to ward off fatal nervous depression. For the first, a ligature around the limb above the seat of injury, incisions, dry cups, suction, caustics, and evaporating lotions. For the second, stimulation (alcoholic), ammonia or olive oil internally; poultices of tobacco, plantain and hoarhound locally. The indicated remedies are *Ars.*, *Bell.*, *Carbo. veg.*, *Lach.*, *Merc.*, *Senega.*, **Bibron's antidote*, *Hypodermic injections* of ammonia and liquor potassæ into the veins; radiating heat to the part is highly lauded by Dr. Hering.

Hydrophobia—Rabies-Canina is produced by the poisonous bite of the dog, wolf, fox, and other animals. Occurs under two forms: one in which the animal shows unusual activity. 2d. Unusual depression. It is said that the skunk produces hydrophobia even when not rabid. The virus has a period of incubation; most dangerous on the exposed parts of the body; clothing often prevents its effects.

***BIBRON'S ANTIDOTE.**—Kali jod. (crude) 4 gr.; Merc. cor., (crude) 1 gr.; and Bromium, ‡ scruples; dose, 5 to 10 drops.

Symptoms.—Giddiness; chills; flashes of heat and general discomfort which increases to extreme nervous irritability; great sensitiveness to drafts of air; apprehension and convulsions; spasm of muscles of deglutition and respiration; extreme sensibility of all the senses; excessive mental agitation and terror; pulse 130 to 150.

Local Premonitory Symptoms are painfulness, irritability, and discoloration of wound; if healed, it often opens and discharges unhealthy matter; pain extending from the wound along the nerves; the bitten part feels numb, stiff, and becomes immovable.

Treatment.—Prophylactic measures are, excision and cauterization. Give internally *Hydrophob.*, *Lach.*, *Bell.*, *Canth.*, and *Elecampagne*. The curative remedies are: *Bell.*, *Hyos.*, *Hydrophob.*, *Lach.*, *Canth.*, *Stram.*, *Cuprum.*, *Hyperic.*, *Lobelia.*, *Scutel.*, *Bibron's antidote*; and the mad stone externally applied.

Dissecting Wounds often give rise to the most serious and fatal consequences; impaired constitutions suffer most. Matter inoculated from a recently dead body is much more dangerous than from a decomposed one,—on this account, wounds received in the dead-house are more serious than those received in the dissecting room. Persons who have died of erysipelas, pyæmia, peritonitis, syphilis, and puerperal fever are most poisonous. Surgeons are apt to be poisoned during operations. Treatment same as recommended in poisoned wounds.

General Indications.—*Wounds.*—Remedies for the various wounds and their special indications. Contusions, *Arn.*, *Con.*, *Euphras.*, *Iod.*, *Ruta*, *Rhus tox.* Sprains, *Agnus c.*, *Arn.*, *Ammon.*, *Bry.*, *Con.*, *Cic.*, *Rhus*. Incised, *Hyperic.*, *Staph.* Lacerated, *Hyperic.*, *Opium*, *Con.*, and *Cicuta*. Punctured, *Apis m.*, *Ledum.*, *Cicuta*. Ecchymosis, *Bry.*, *Calend.*, *Rhus*, *Sulph. ac.* Poisoned, *Ammon.*, *Ars.*, *Bell.*, *Caust.*, *Lach.*, *Led.*, *Nat. mur.*, *Senega*.

Special Indications.—*Agnus c.*—Sprains from lifting great weights, twisting of joints, sub-luxations; pain not severe in the beginning.

Arn.—Bad effects locally from falls, twists, strains, bruises and all mechanical injuries when the skin is not broken.

Ammon c.—Sprains followed by weakness and soreness in limbs, as if bruised, drawing and tension in joints, contraction of limbs as if tendons were too short.

Apis m.—Septic wounds, with throbbing, and pulsating pain extending up the limb; erysipelas following wounds. Punctured wounds, stings of insects: skin sensitive to touch, attended with debility and exhaustion.

Calend.—Open wounds followed by bloody and serous infiltration into the cellular tissue; threatening suppuration.

Conium.—Contusion with thickening of the cellular tissue and induration of glands, accompanied by a sensation of numbness.

Hyperic.—Great nervous depression after wounds; injuries to parts rich in sentient

nerves, especially the scalp, palms of hands, soles of feet, matrices of nails; lacerations, severe pains showing injury to nerve structure.

Ledum.—Deep wounds made by sharp instruments; punctured wounds which feel cold to touch; chilly sensation during fever. *Mez.*, for callus following wounds.

Rhus tox.—Bad effects from strains, especially membranous structures and ligaments, and thecae of tendons.

Ruta.—Injuries of periosteum and ligaments, tarsal and carpal joints. (*Ledum.*)

Staph.—Injuries from sharp cutting instruments—incised wounds.

Symph.—Injuries affecting bones, with contusion and fracture.

Gun Shot Wounds are both contused and lacerated, and include all those which are caused by the discharge of firearms. Bleeding is comparatively slight unless a main artery is divided; and is immediate or *primary*, or consecutive or *secondary*. Shock follows every serious wound. Orifice of entrance is small; of exit large. Wounds made by conical balls from rifled weapons, are more dangerous than those from round shot. Windage from balls is not fatal as was once supposed.

Course of Balls.—Balls frequently lie embedded or encysted for life. A round ball is more readily deflected from its course than the rifle ball, and is more apt to be encysted. The rifle bullet inflicts the most severe and dangerous wounds; it splinters bones, penetrates nerves and tendons, and tears its way through every structure it meets. *Round balls occasionally follow the most devious courses. Irregular missiles of all sorts make ghastly and dangerous wounds; portions of dress, accoutrements, etc., are apt to be driven into the wound. This kind of wound ejects the substance driven into the body by its own suppuration. Gun-shot fracture of bones is *simple*, *compound* and *complicated*; a ball lodged within bone gives rise to prolonged inflammation and necrosis, followed by hemorrhage, abscess, gangrene, erysipelas, pyæmia, necrosis, non-union and tetanus. Bone perforated by a ball does not produce such severe consequences; pain and hemorrhage are the prominent characteristics of gun shot wounds.

Local Treatment.—Gun shot wounds are to be treated on the same general principles as contused and lacerated wounds. The object is to arrest hemorrhage, remove foreign bodies, replace tissues, put the part in the most favorable position for union by granulation or to hasten the separation of sloughs. Wounds should not be enlarged unless to tie a bleeding vessel, remove foreign bodies, and all extraneous matter. The bullet

*I saw one case in which a ball entered at the nape of the neck and was cut out at the extremity of the sacrum, traversing the whole extent of the spine, leaving a bright red line under the skin to show its devious track. This case was treated by the author at Mound City General Hospital.

forceps, or other suitable instrument should be employed to remove balls or other objects driven within the body. After wound has been cleansed and all operative procedure finished, apply *Hyper.* lotion, which has been more successful in my hands than all other remedies combined. Whenever suppuration begins, use *Calend* lotion; *Carbolic acid* for disinfection, etc., etc.

Constitutional Treatment.—Rally patient from shock (see Shock); stimulants are injurious in gun shot or penetrating wounds. Allay fever by *Ac.*, *Gels.*, *Bap.*, *Verat.*, *China*, etc. Support strength during suppurative period by appropriate remedies, diet, etc.

Gun Shot Wounds of the Chest.—If a ball penetrate the chest or lodge within its cavity, it may become encysted and give rise to no more trouble. When the lung has been wounded, great collapse ensues approaching to syncope; face is pale and anxious; breathing difficult, often expectoration of frothy blood and emphysematous condition of the wound.

Treatment.—Give remedies for hemorrhage, (which see) and treat case as a penetrating and lacerated wound. Put patient at rest, with low diet, cooling drinks; allay fever by giving *Ac.*, *Gels.*, *Bap.*, *Verat.*, and prevent suppuration, *Merc.*; or, if begun, moderate by appropriate remedies: *Hepar*, *Calend.*, etc., and apply continuously lotions of *Hyperic.*, or *Ledum.*, in accordance with their curative action. Probe cautiously if at all. Great danger often follows this meddlesome surgery.

Gun Shot Wounds of the Abdomen are usually fatal, producing septicæmia and peritonitis with their consequent complications. If the viscera escape injury, peritonitis is apt to follow if it is much injured; if the liver, kidney, stomach, spleen or large intestine is involved, the risk to life is greatly increased. The case of our late lamented President Garfield is a melancholy example of the evil effects following hyper-medication in this variety of gun shot; under a more conservative course by his surgeons or if proper homœopathic remedies had been employed, the case might have terminated differently. I speak from experience.

Symptoms are great collapse, pain, vomiting, peritonitis, perhaps death, which follow the wound. Protrusion of the intestines rarely happen unless the wound is of considerable extent.

Treatment.—The wound should be carefully and gently examined during the state of nervous depression, unless collapse threatens immediate death. If the intestine is only slightly wounded it is better to depend upon union by adhesion and lymph deposit, than to use a ligature. If the laceration is more extensive the continuous suture—Lembert's—the carbolized gut, or whale tendon, should be used, and the bowel returned; or attach it to the edges of the external wound by interrupted suture and convert it into a faecal fistula. Keep patient quiet and on low diet. Apply locally, lotions of *Hyperic* or *Ledum*, and give such remedies as will respond to the condition represented.

Amputation after Gun Shot.—The following rules should be observed in all gun shot injuries of the limbs. Amputation is recommended: 1st. When a limb has been almost dissevered from the body. 2d. When the limb has been crushed and pulpetized to disorganization. 3d. When a large mass of soft structures has been torn away, involving lesion of important vessels, and nerves. 4th. When the larger joints have been opened, the bones comminuted and important vessels torn. Every amputation should be made as far as possible from the trunk. The farther, the less mortality, and vice versa. In all gun shot injuries to the smaller joints and in continuity of the bones of limbs, excision is preferred to amputation. If possible amputate during nature's anæsthesia (primary). My experience in army and civil life, leads me to recommend *primary* always in preference to *secondary* amputation, or those performed after fever has been established, (vide "Homœopathy in the Army,") N. Y., J. H., 1864.

Equinia is a disease generated in the horse tribe and transmitted to man by inoculation. It manifests itself under two forms, *glanders* and *farcy*, and is conveyed to man through abrasion of surface, or by mere contact with the skin or mucous membrane.

Glanders is an affection of the mucous lining of the nose, followed by an offensive discharge, mixed with blood and terminating in sloughing of the internal structures, coincident therewith. The salivary glands and the cervical lymphatics become swollen, hard, painful, and prone to suppuration.

Farcy is that condition wherein the subcutaneous glands

throughout the body become hard and painful, constituting what are termed "farcy buds."

Pathology.—These diseases are supposed to be due to the deposit of a material analogous to tubercle, involving the schneiderian membrane. This is further proven by the fact that consolidation of the lungs ensue with circumscribed patches of pneumonia.

Treatment.—If acute, it is a very serious disease, if chronic, with proper treatment it is almost certain to be cured. The appropriate remedies are *Crotalus*, *Graph.*, *Kali bi.*, *Merc.*, *Lach.*, *Rhus tox.* Great attention should be given to diet, cleanliness, ventilation and disinfection, while the pustules and sloughs should be treated locally by lotions of *Calend.*, *Arsenic*, *Kali bi.*, *chrom.*, or *Hydrocotyle*. See septicæmia.

CHAPTER V.

VENEREAL DISEASES.

Venereal Diseases.—Under this term is included all the diseases that arise from impure coitus, viz: *Gonorrhœa*, *Chancroid*, and *Syphilis*.

Gonorrhœa is the term applied to a specific inflammation of the urethra, or vagina; the result of impure sexual intercourse, and accompanied by a purulent discharge. After exposure to infection, an uncertain period lapses before the symptoms are developed, called the *period of incubation*, and which lasts from four to seven days. The disease is divided into three stages, each having distinctive peculiarities, viz: *accession*, *acute inflammation*, and *decline*.

Accession.—*1st Stage.*—In the male, the disease comes on with gentle heat and irritation; a sense of tickling or slight itching within the meatus. The glans become congested, the lining membrane is red, swollen, and the orifice partly closed, and there is emitted a thin, whitish, watery discharge, while the urine is passed with difficulty, and the stream is diminished,

twisted and forked. Accompanying these symptoms there is a dull, aching pain in the back, loins and testicles, with more or less pyrexia.

Acute Inflammation.—*2d Stage.*—In this stage all the symptoms are aggravated; the discharge becomes thick, puriform, and perhaps of a greenish or redish tinge, with prolonged and painful erection at night. Pain and scalding in passing urine, which is more frequent. The penis is often curved as if tied down with a string (chordee), which is due to deposit of lymph in the corpus spongiosum, which interferes with the uniform expansion of the organ, and is exquisitely painful. At times the prepuce is œdematous which may give rise to phimosis or paraphimosis. Abscess may form in the substance of the penis causing much pain and trouble, or a metastasis may take place to the testicle, producing orchitis. The lymphatic glands in the groin may become inflamed and suppurate (bubo), or, at the termination of this stage there may occur rheumatic pains of an exceedingly obstinate kind; in the larger joints it is called gonorrhœal rheumatism.

Decline.—*3d Stage.*—When the inflammation has run its course and is on the decline, there follows a thin, mucopurulent discharge (gleet), which may continue for some time and become very inimical to treatment (incipient stricture).

Urethritis or Blennorrhagia.—There is a form of disease resembling gonorrhœa, but which is not produced by a specific virus. This disease may be caused by external violence, the use of instruments, masturbation, excessive coitus, and by accidental causes; each case wanting the direct contagion. This disease is less violent than the preceding, cannot be generated by auto-inoculation, and is more amenable to treatment than gonorrhœa. Great caution should be exercised in discriminating between these diseases, and when in doubt inoculation should be performed and a correct diagnosis arrived at. A preponderance of cases of urethral inflammation are of this type of disease, which are produced by the causes assigned. As a rule the *first* attack of urethral inflammation, is more *violent* than subsequent attacks.

Treatment is both *prophylactic* and *curative*. The difficulty in employing the first is that the physician does not see the

patient till too late to use the abortive treatment, which should only be done in the "accession" period. This is accomplished by injecting into the urethra, *never beyond the inflammatory portion* which is about the fossa navicularis, a weak solution of *Nitrate of Silver*, *Sulphate of Zincum*, or *Cuprum*; one gram of the *Nitrate* in three ounces of distilled water, or three grains of either *Zincum* or *Cuprum* in same amount of water, and add six grains of *Gum Arabic* to each mixture.

The following recipes are highly recommended as prophylactic agents, and should be used warm.

℞. Merc. corros., (*cr.*) gr. i; Aqua Rosæ, ̄ viii.

℞. Acid Nitric, (*cr.*) gtt. iii to vi; Aqua bullæ, ̄ viii.

℞. Nux Vomica, (*tr.*) gtt. xx; Aqua Rosæ, ̄ iv.

℞. Cannabis sat., (*tr.*) gtt. xii; Aqua bullæ, ̄ vi.

℞. Eryngium aq., (*tr.*) gtt. xii; Aqua bullæ, ̄ viii.

℞. Gelsim, (*tr.*) gtt. xii; Aqua bullæ, ̄ viii.

This should be employed with rigid regularity every four hours till all the primary inflammation is destroyed. The patient should void urine just previous to the injection, or the urethra be washed with warm water. If the injection of silver (my favorite remedy) passes away loaded with a pearly looking discharge, it must be repeated till it comes away unmixed with any of this peculiar product. After each injection, the discharge will be increased for an hour or two, when it becomes gradually thinner and less copious; two or three days are ample for a perfect cure if strict attention is given to the details of the operation, hygienic treatment, etc. Injections should never be employed stronger than the above, and never during the inflammatory stage.

The medical treatment consists in the use of the following remedies: *Sepia* in the *accession* stage; *Ac.*, *Gels.* and *Merc.* in the *inflammatory* period; to be followed by *Can. sat.*, *Merc. sol.* and *Cor.*, *Canth.*, *Copaib.*, *Santal.*, *Petros.*, *Caps.*, *Sepia.*, *Erecth.*, *Erig.*, *Eucalypt.*, *Agnes cast.*

Special Indications.—**Sepia.**—This remedy given in the higher potencies is one of our most valuable agents for the cure of Urethritis in the stage of accession and I have made numberless cures with it. It corresponds faithfully to the *tingling*, *smarting*, and *titillation*, itching of the prepuce and discharge of milky fluid and whenever I could hold my patient well in hand, have rarely required any other remedy. It corresponds with the urging, frequent, painful micturition, mucous discharge, smarting, tenesmus and bearing down sensation about the perineum.

Gels.—This is a precious remedy in all cases of urethritis and gonorrhea when the symptoms are sub-acute, discharge moderate, frequent irritation with considerable heat,

and little pain with smarting and redness at the meatus. In sub-acute cases or in severe cases when the inflammatory symptoms have been subdued by previous treatment.

Acon.—In acute gonorrhœa, inflammation well-developed, even scalding, copious, thick greenish discharge; frequent and painful erections with more or less febrile disturbance; lips of the meatus red and swollen. After inflammatory symptoms have subsided, give *Can. ad.* for smarting pain, burning and stinging during micturition, ardor urinae, constant urging, titillation, copious, thinner, yellow or whitish discharge, the lips of the meatus glued together and retaining the matter within, prepuce swollen and painful, with burning, smarting, stitching, darting pain in the urethra, extending from the orifice of the penis to the bladder; strangury, with pains extending to the scrotum, with dragging of the testicles.

Merc. cor.—Another valuable agent in the acute stage with thick green and bloody discharge, painful erections, swollen prepuce, constant desire to urinate, muco-purulent matter mixed with blood, cutting pains in the urethra, swelling and burning of the prepuce, tips of the meatus red and oedematous, drawing pains in the testicles with swelling of the glands—chordee, stream of urine smaller and passes away feebly. *Merc. sol.* acts well in cachetic and impaired constitutions, in sub-acute cases especially after *Acon*; discharge slight, itching and stinging pains mostly confined to the glans.

Copaib.—When the inflammatory symptoms have been mitigated by *Acon* or previous treatment, or in sub-acute cases with itching, smarting and burning in the urethra with nocturnal chordee; urine emitted in drops, swelling and redness of the urethra, urging pressure, pulsative pains along the urethra, the urine has the odor of violets, with a constant desire for its voidance, discharge yellow and copious, the urine depositing a sediment resembling albumen, a peculiar *erythema* with sub-acute synovitis, has frequently occurred in my practice from its use in the crude form.

Oleum Sandalini has of late done me good service in cases of this often intractable disorder, after the use of *Acon.* for 24 or 36 hours, when the discharge is thick, yellowish, or muco-purulent, attended with burning, smarting pain, frequent desire to urinate, swelling and redness of the meatus, with smarting, stinging pain in voiding urine; painful erections, swelling of the prepuce as if distended with water. I have used it in the first and second potencies with the most satisfactory results. I prefer the latter—after amelioration by the second, the third acts even more satisfactorily.

Petroselin. is another new remedy, and like the former is most appropriate when the more violent symptoms have been controlled by *Acon.* or other appropriate treatment—especially in cases where the inflammation has passed up the urethra, rapidly involving the base of the bladder with distressing ardor urinae with strangury, discharge profuse, thick and whitish—see *Canta* and *Capsic.*

Canta.—Cutting, stinging pain during and after micturition, discharge thick and yellowish, with severe pains at the base of the bladder, continuing before and after urinating, with ardor urinae. (Consult *Capsic.*)

Cubeba.—This is a remedy too much overlooked in those chronic, sub-acute or gleet conditions of the genito-urinary tract and in the blennorrhœas that occur in relaxed or impaired constitutions, especially after frequent attacks of the urethritis with an absence of the more violent symptoms.

Mezer.—In mild cases with stinging, titillating pains, beginning at the bladder, and extending to the meatus, discharge thin and yellowish, soreness along the urethra after voiding urine, which is acrid and red, like blood.

Terebinth.—In sub-acute and chronic blennorrhœas, with burning during urination, suppression of urine, urethra sore, discharge whitish, unsuccessful attempts at micturition, irritation extending from the bladder to the meatus.

Kali hyd.—In chronic urethritis of long standing with constant urging to urinate, with thick, green mucous discharge, pain during micturition, irritable and sensitive urethra.

Erigeron can.—In chronic blennorrhœas with irritation of the urethra with increase of offensive urine, drawing pain in the back running down to right testicle.

Stilling. has been given in chordee with painful erections, burning and itching during the act of micturition, irritation extending to the bladder.

Thuja.—In chronic and ill-treated cases, with burning in the urethra, stitching pain at the meatus between the acts of micturition, sensation of titillation as if a drop of urine was passing along the urethra.

Sulph.—In chronic gonorrhœa when the discharge is slight, but the smarting and burning continues during urination, urine passes in a thin stream, walls of the urethra thickened, itching along the urethra with constant desire to void the urine; pain, stinging and tearing between the acts of micturition; when the appropriate remedy seems to have lost its curative action.

Dr. Price, of Baltimore, advises, as soon as the *first* drop appears, to inject a few drops of clear glycerine, enough to fill the urethra as far back as the inflammation extends; hold it there for five minutes, then let it escape; urinate before using. Another plan is to wrap a piece of raw cotton around Emmett's silver probe saturated with glycerine; pass it into the urethra an inch or more, repeat if necessary. These prophylactic measures may be tried I think, with fair success.

My experience has led me, after many years of practice, and large numbers of patients treated, to resort to the medium potencies, when the best directed efforts with the crude and lower attenuations effected little or no good. A resort to the middle and higher potencies, as high as the 30th has almost always resulted in marked improvement and speedy cures. I can confidently recommend their employment when both physician and patient are wandering about in the maze of unrelief.

During treatment, patient must abstain from all stimulants, condiments, strong coffee and tea, and tobacco in every form; quiet and rest should be enjoined, and the strictest cleanliness be observed. In such cases, when a "drop or two" still appears after a well conducted course of treatment, suspect incipient stricture and use mechanical dilatation. Some authors speak of a kind of inflammation of this character which they term "gonorrhœa sicca," or dry clap. I do not attach any importance to this as a variety of gonorrhœa. Use suspensory bandage to the scrotum if the patient will attend to business. Sexual excitement should not be permitted, and all hygienic precautions enforced during treatment and two weeks after, for fear of a relapse.

Orchitis is an inflammation of the testis proper. When the Epididymis is involved it is termed *Epididymitis*. In a badly managed gonorrhœa, both structures may be involved, especially so after exposure to cold or strong caustic injections. When it occurs coincident with gonorrhœa there is a temporary cessation of the discharge; the disease by metastasis attacking the testicle. The symptoms are weight and tenderness in the penis; pain in the back and loins extending from the scrotum; testicle swollen; skin covering scrotum tense, dark red or purplish; tenderness to touch; with fever; furred tongue; dry skin. This may terminate in abscess, with an increase of all of the above symptoms, with a feeling of pulsation and pain deep in the organ; shiverings are present, and even the pressure of the bed clothes is insupportable. The penis is mostly ill-conditioned; fluctuation is felt, and if left alone, the abscess will be discharged by several openings and a peculiar *fungous growth* springs out from these outlets.

Treatment.—Remedies act exceedingly prompt in this affec-

tion. In mild cases a few doses of *Sulph.* will restore the urethral discharge and allay all inflammatory trouble connected with the testicle. In plethoric persons *Ac.* and *Bell.* are very servicable. *Gels.*, *Puls.*, *Phytol.*, *Clem.*, *Ham.*, *Merc.*, *Rhod.*, *Ant. tart.*, *Verat. vir.*, *Spong.*, *Hepar.*, will be found competent to cure the worst cases. After inflammation has passed, use adhesive straps and the suspensory bandage.



Special Indications.—*Ac.*—If there is fever, hot and dry skin, full pulse and other active indications of vascular excitement.

Gels.—When the disease arises from a suppressed gonorrhœal discharge, from exposure to cold or wet weather, or when biliary disorders exist with tendency to congestion.

Clemat. erect.—After activity of the inflammatory conditions have subsided. If the disease began in the epididymis or if it assumes a chronic type with induration and sensitive prepuce; retraction of the testicles and cord; coming on after exposure to cold. (See Aurum.)

Bell.—If the organ is hot and swollen, in plethoric persons, with tendency to delirium and congestion to the head.

Puls.—Is servicable in persons of mild disposition, easily affected to tears; delicate organizations. When the inflammation is sub acute, the glands alone being affected, pain shooting down the back, or into the thigh, and changing suddenly with little or no thirst during the fever.

Ham.—Dull, heavy pain in testicle, at times excruciating; unconscious seminal losses; scrotum hot, congested and swollen, the covering having lost its corrugated appearance and becoming tense, smooth and shining. (See *Bell.*)

Hepar s.—For abscess of the testicle fully formed; after pus is formed evacuate with bistoury or aspirator; close wound with a piece of adhesive plaster; *Sil.* and *Phos.* may be required to complete the cure.

Merc.—After subsidence of inflammation, and the formation of pus threatens, with shivering and profuse perspiration; the gland hard and sensitive. If testicle continues hard, *Iodium*. The scrotum should be well supported on a small pillow placed between the thighs. Apply locally *Ac.*, *Bell.*, *Clemat.*, *Puls.*, *Ham.*, lotions to scrotum; low diet and rest in the recumbent position; strapping of the testicle.

In rheumatic orchitis, *Ac.*, *Gels.*, *Bell.*, and *Merc.*, in the lower attenuations, have done good service in my hands.

Balanitis, or spurious gonorrhœa, is caused by impure coitus, or a want of cleanliness about the glans penis and is accompanied with itching, burning, and soreness under the prepuce, increased by walking. The inflammation may be very severe, with œdema of the prepuce and phymosis, and become very distressing, yielding a muco-purulent discharge. It frequently arises from the sebaceous glands around the corona, which secrete a cheesy kind of matter; this becoming disorganized, produces an inflammation which envelops the lining membrane of the glans and gives rise to excoriation and swelling of the prepuce.

Posthitis.—It is called *posthitis* when the inflammation extends to the lining membrane of the prepuce. Causes.—Want of cleanliness, leucorrhœa, menstrual secretions, violent coition, as well as contagion.

Treatment is cleanliness and lotions of *Hydrast* or *Calend.* If the swelling of the prepuce is so tense as to prevent preputial retraction over the glans, cleanse with a small syringe, its nozzle being introduced within the aperture of the prepuce, and the lotion applied three or four times a day. When the prepuce can be retracted, apply *Calend.* or *Hydrast. cerate* to the part or sprinkle the abraded surface with *Merc. dulc.*, first trituration. If phymosis occurs, treat as advised under that affection. *Ac. Corall.*, *Merc.*, *Nit. ac.*, or *Puis.* may be required internally.

Lyc.—Quantity of yellowish humor behind the corona.

Staph.—Humid soft excrescences behind the corona; itch on being rubbed.

Cystitis may arise spontaneously from neglected gonorrhœa, or from metastasis caused by violent abortive measures. The unskillful use of instruments, cold, hæmorrhoids and injuries.

Symptoms.—Pain in the supra pubic region, extending to the sacrum, the perineum and along the urethra. Tenderness on deep pressure over the pubes; frequent micturition with pain and difficulty; the symptoms being aggravated rather than relieved when the bladder is emptied; a tumor in the region of the bladder with pains of a burning, lancinating or throbbing kind; pulse frequent; skin hot and dry; tongue furred and whitish. If the neck of the bladder is affected, pain is mostly felt in perineum, and there is entire or partial retention of urine, with dysuria or strangury. The introduction of a bougie is exceedingly painful. If the posterior part of bladder is chiefly affected, violent tenesmus will be felt from its contiguity to the rectum. It sometimes terminates in abscess or complete suppression, which is a serious complication.

Treatment.—The principal remedies are *Ac.*, *Apis*, *Aloes*, *Bell.*, *Canth.*, *Chimaph.*, *Camph.*, *Dulc.*, *Dig.*, *Erig.*, *Chin.*, *Can. sat.*, *Eup. purp.*, *Sant.*, *Hydrast*, *Kali jod.*, *Puls.*, *Sulph.*, *Terebinth.*, *Uva. urs.*, *Squill.*, and *Sulph.* Injections of warm *Hydrast.* lotions thrown into the bladder. Hot fomentations and sitz baths locally are very beneficial. A high degree of inflammation with suppression is very serious. It may terminate in resolution, suppuration, induration of its wall, or gangrene. In resolution there is gradual decline of symptoms. In suppuration chills or rigors occur with white matter in the urine. Induration is known by subsequent irritation, gangrene, coldness, prostration, weak pulse, hiccough and pallor.

Special Indications.—**Acon.**—Excessive and fruitless desire to urinate, with the emission of a few drops of red, deep-colored urine, violent fever and thirst; pains increased on making water; great tenderness in the supra-pubic region. In rheumatic cystitis it is invaluable.

Canth.—Shooting and burning pains in the vesical region, both before and after emission, a few drops of bloody urine only passing at a time; cutting pains from the loins to the bladder; arid urine, bloody urine with cutting, burning pains in perineum.

Coloc.—Tenesmus pains at urination felt over the whole abdomen; urine light-colored, depositing a tenacious sediment; after inflammatory symptoms have subsided, and mucus is discharging. In induration of the bladder walls after inflammation. See *Merc. sol.*

Cannab.—Complete retention; great desire to pass urine; a few drops of bloody urine is passed with burning pain.

Digital.—The neck of the bladder principally affected; constrictive pain in the bladder with retention; urine turbid or deep-colored and passed in drops.

Kali c.—Great desire to urinate, with scanty emission; great pressure before urinating; hot, scanty urine; frequent, painful emissions of small quantities, desire continuing after emission.

Phos.—Inability to retain urine long; constant desire for its evacuation and at the same time a movement of the bowels; profuse urination; dull pain in the hypogastrium prevents micturition; paralysis of the bladder—chronic cases.

Squilla.—Great desire to pass urine; emission scanty; urine hot and red with sticking pains in the fundus of the bladder, producing movements of the bowels—*Phos.*

Sulph.—Urine mixed with mucus or blood; burning during urination.

Nux vom.—When hæmorrhoids are present. In chronic catarrh of the bladder; *Acid phos., Lyc., Caust., Copiva, Carbo veg.* when paralysis sets in; *Ars. and Lach.* for gangrene. The diet should be regulated; avoid animal food, spices, wine. Carbonated water has a good effect.

Ischuria.—*Retention of urine* differs from suppression. In the latter the kidneys do not perform their accustomed functions. In ischuria more or less pain exists in the bladder, which is distended and can be felt in some cases above the pubes. There is urgent desire to urinate, with pain and sickness, and a very small quantity is emitted. The disease as a rule yields readily to remedies. If the bladder is over-distended, and a species of paralysis has set in, *Ac., Hell., Nux vom.* and *Dulc.* are important remedies. *Opium* if the difficulty is purely nervous. If there is stabbing pains in the urethra, with feeling of stiffness, worse at night, *Dig.; Apis* if complete suppression exists; *Buchu* relieves spasmodic retention. The following remedies may be consulted in particular cases: *Ac., Cann., Canth., Puls.* and *Stram.*

If the symptoms are urgent and remedies have not had the desired effect, warm baths are beneficial; electro-galvanism and finally the catheter if the patient is suffering from over distension. In cases of stricture or paralysis if it is found impossible to relieve the bladder by these means; recourse must be had to puncture of the over distended viscus either by aspiration or puncture with a trocar. See retention following stricture.

Special Indications for Diseases of the Bladder and Urethra.—**Aconite.**—This great antiphlogistic is indicated when the skin is dry and hot; great thirst; unrest; nervous excitement; fear and anxiety; pain in the region of the bladder; retention of urine, with stitches in the kidneys; frequent and violent urging to urinate, with scanty emissions of red, turbid urine.

Angustura.—Tenesmus of the bladder, followed by profuse emission of white urine; tenesmus after micturition. One is obliged frequently to urinate, although but a few dark-yellow drops are emitted each time, causing a burning pain; orange-colored urine, soon becoming turbid.

Anantherum.—Frequent emission of urine, which is turbid or soon becoming so; sensation of numbness and obstruction in the kidneys; sensation as if the kidneys and bladder were always full and swollen. Pressure and burning pains in the bladder, with urging to urinate every minute; the bladder cannot hold the smallest quantity of urine. Difficult, painful, intermittent micturition; it stops and begins again the next moment. Fullness and distention of the bladder, with inability to urinate; urine turbid, thick, and full of mucus, as in catarrh of the bladder; retention of urine, with retraction of the urethral canal; urine brownish or yellowish, and bloody; very frequent urging to urinate, with burning urine, which is discharged in drops; urine with yellowish, grayish, or dark sediment; incontinence of urine, with involuntary urination when walking, and even at night in bed during sleep, as if caused by paralysis of the neck of the bladder; tenesmus vesicæ, with ischuria.

Apis.—Burning in the urethra before and after micturition; disagreeable sensation in the bladder, with a bearing down in the region of the sphincter and frequent desire to urinate; incontinence of urine, with great irritation of the parts, worse at night and when coughing; almost incessant desire to pass urine; urine high-colored; and more frequent emissions of small quantities; straw-colored urine, with brickdust sediment.

Asparagus.—Urging to urinate; burning in the urethra; frequent urinating, with fine stitches in the orifice of the urethra; urine scanty and cloudy; a little straw-colored urine is passed, which becomes turbid immediately after being passed, and is full of motes; after urinating, burning in the urethra, with sensation as if there was some urine yet to pass.

Arnica.—This remedy will often be indicated in affections of the bladder arising from mechanical injury, when retention of urine is present, with tenesmus of the neck of the bladder, with ineffectual efforts to urinate; urging, the urine dropping out involuntarily; brown urine with brick-red sediment; one has to stand a great while before the urine is emitted; urine strongly acid; specific gravity increased.

Arsenicum a.—Retention of urine, as if the bladder was paralyzed; scanty urine passing with difficulty; burning in the urethra during micturition, tenesmus and strangury; great desire to urinate, but does not pass any urine; urinates more frequently than usual. Involuntary emission of urine in the night when sleeping; ischuria; urine copious and burning hot. Greenish dark-brown urine, turbid when emitting it; urine profuse and dark-brown; hæmaturia; much sediment in the urine.

Belladonna.—Difficult micturition, the urine being passed guttatim, with frequent urging; the urine is yellow and turbid, sometimes depositing a reddish sediment; constant dribbling of urine; sharp stitches low down in the abdomen in the direction of the perineum; pains come on suddenly, and cease in the same way; feeling in the back as if it would break; anuresis, with profuse perspiration; paralysis of the sphincter vesicæ.

Berberis v.—Violent stitching pains in the bladder, extending from the kidneys into the urethra, with urging to urinate; frequently recurring crampy pain in the bladder; cutting constrictive pain in the bladder, when full or empty; burning in the urethra; burning pain in the female urethra during and after micturition; stitching pain in the female urethra, beginning in the bladder; violent stitches in the bladder, which compel one to urinate; burning pain in the bladder. Urine dark-yellow, red becoming turbid; copious mucous sediment, mixed with a whitish gray, and later a reddish mealy sediment. Greenish urine, depositing mucus. Blood-red urine, which soon becomes turbid, and deposits a thick mucus and bright red mealy sediment, slowly becoming clear but retaining its blood-red color; pains in the loins and kidneys frequently accompany the morbid urine, but not always; movement brings on or increases the urinary troubles.

Benzoe acid.—Vesical catarrh; irritability of the bladder; nocturnal enuresis in children; too frequent desire to evacuate the bladder; the urine normal in appearance; decrease of the quantity of urine; urine aromatic; urine of a very repulsive color, of a changeable color, brownish, cloudy, of an alkaline reaction; dark, reddish-brown urine, of greater specific gravity than normal urine, with an acid reaction. Indicated when the urine contains an excess of uric acid. The patient is pale, languid, with a feeling of weakness in the loins. Fleeting pains in the region of the bladder; a granular mucous, mixed with phosphates, in the sediment of the urine.

Calcarea carb.—Pain in the bladder, and cutting on urinating; burning in the urethra before and after urinating; fine tickling stitches through the urethra; much sour-smelling urine passed at night; trickling of urine after micturition; involuntary passage of urine on every motion during menstruation; nocturnal enuresis; urine very dark-colored, without sediment; the urine has a pungent odor, is clear and pale; offensive dark-brown urine, with a whitish sediment; the urine soon becomes turbid, and deposits a whitish flaky sediment; a fatty pellicle forms on the surface.

Camphora.—Diminished power of the bladder. Retention of urine with urging to urinate; tenesmus of the neck of the bladder. Painful urination; burning urine; strangury; the urine passes in a thin stream, as if the urethra were contracted; yellowish green, turbid urine, of a musty odor; brown urine; red urine; the urine on standing becomes very turbid and thick, of a whitish green color, without deposit of sediment; urine contains mucus without sediment; urine with white or red sediment; urine increased, of a dark brown color; urine profuse, colorless, frequent; urine scanty.

Cannabis indica.—Inflammation of the bladder; burning, scalding, stinging pain before, during, and after urination; urging to urinate, with much straining; copious discharge of clear, bright-colored urine; the urine passes freely at times, then again in small quantities, with burning and biting; the urine dribbles out after the stream ceases; aching in the kidneys; thick, red urine.

Cannabis sativa.—Enuresis; paralysis of the bladder; drawing pain in the region of the kidneys, extending into the inguinal glands, with anxious nauseous sensation in the pit of the stomach; burning while urinating, but especially afterward; urging to urinate with pressive pain; stitches along the urethra when not urinating, white turbid urine; urine red and turbid; urine full of fibres, as of mucus, with pus.

Cantharides.—Inflammation of uropoetic organs; pains in the region of the kidneys and urging to urinate; burning, tenesmus, and violent pains in the bladder; ardor urinae; urine scalds, and is passed drop by drop, with extreme pain; hot, acrid and bloody urine; urine dark-colored, turbid, and scanty; urine loaded with mucous and sediment; cloudy urine, like mealy water, with white sediment.

Carbo veg.—Pressing pain in the bladder; contraction of the urethra every morning; frequent urging to urinate; copious emissions of light yellow urine; the urine has a strong odor; dark-colored urine; dark-red urine, as if it were mixed with blood; the urine deposits a red sediment.

Causticum.—Frequent, difficult, and painful micturition; involuntary emissions of urine when coughing; nocturnal enuresis; smarting pain in the urethra while urinating; light-colored urine, with flocculent sediment.

Chimaphila umbellata.—Chronic catarrh of the bladder; scanty urine, containing a large quantity of muco-purulent sediment; urine thick, ropy, of brick color, and copious bloody sediment; dysuria; inability to pass the urine without standing with the feet wide apart and the body inclined forward.

Colchicum.—Ischuria; frequent micturition, with diminished discharge of urine; constant burning in the urinary organs, with diminished secretion; brown, black urine; whitish deposit in the urine.

Colocythis.—Alternate stitches in the bladder and rectum; itching at the orifice of the urethra, with desire to micturate; retention of urine, with a retraction of the testicles and priapism. Urine fetid; it soon thickens and becomes viscid. Urine becomes turbid, with copious deposit, often like gravel.

Conium m.—Pressure on the bladder; frequent micturition during the night, the urine cannot be retained; the flow of urine suddenly stops, and continues after a short interruption; the urine is thick, white, and turbid, or clear as water, with frequent calls to pass it; burning sensation when urinating; pressure in the neck of the bladder with stitches, worse when walking, better when sitting, burning in the urethra.

Copaivæ bal.—Excessive irritation of the bladder. Inflammation of the urinary organs; swelling and dilatation of the orifice of the urethra, with pulsative pain throughout the penis. Constant, ineffectual desire to urinate; the urine is emitted in drops; foaming urine, greenish, turbid, with the odor of violets.

Digitalis p.—Inflammation of the neck of the bladder; pressure on the bladder, with the sensation as if it were too full, continuing after micturition. Continual desire to urinate, only a few drops being passed at each effort; the urine is dark-brown, hot, and burning when emitted. The urine is more easily retained in the recumbent posture; alternate emission of large and small quantities of colorless urine; contractive pain in the bladder during micturition.

Dulcamara.—Paralysis of the bladder, with involuntary discharge of urine; catarrh of the bladder; thickening of the coats of the bladder; retention of urine; stranguary; painful micturition; urine turbid and white; reddish, burning urine; mucous sediment in the urine.

Erigeron.—Vesical catarrh, with pain and irritation; dysuria in children; they have frequent desire and cry when urinating; the urine is profuse, and of a very strong odor; the external parts are inflamed and swollen.

Gelsemium s.—Enuresis from paralysis of the sphincter, in children at night; profuse urination; urging with scanty emission, and tenesmus of the bladder; spasm of the bladder, with alternate dysuria and enuresis.

Graphites.—Micturition is preceded by a cutting pressing from the kidneys; anxious pressure in the bladder, with sudden desire to urinate, but scanty emission; nightly desire to urinate; nocturnal enuresis; frequent micturition; the urine has a sourish smell; the urine becomes very turbid, and deposits a reddish sediment.

Hepar sul. cal.—Nocturnal enuresis; weakness of the bladder; the urine is passed slowly, without force, dropping perpendicularly from the urethra; the urine is flocculent and turbid; dark-yellow urine, burning while passing; brown-red urine, the last drops are mixed with blood; sharp, burning urine, which corrodes the internal surface of the prepuce; the orifice of the urethra is red and inflamed, discharge of mucus from the urethra.

Hedeoma p.—Suppression of urine; tenesmus; painful urination; cutting, burning pains in urethra; scanty emission of urine, with frequent and urgent desire; urine very dark, like black tea.

Hyoscyamus u.—Enuresis; paralysis of the bladder; retention of urine, with pressure in the bladder, frequent micturition, with scanty discharges.

Ignatia a.—Irresistible desire to urinate; painful pressure, with a scraping sensation in the neck of the bladder, especially when walking; turbid urine; frequent emission of watery urine.

Jodium.—Nocturnal urination; retention of urine; increased secretion of thick urine, with dark sediment; urine dark; turbid; milky; with a variegated cuticle on its surface; ammoniacal smell of the urine.

Kali bich.—Frequent discharges of watery urine of strong odor, painful drawing from the perineum toward the urethra; urine with white film and deposit of mucous sediment.

Lachesis.—Copious emission of foaming urine; yellow-colored urine; copious brown-red urine; urine with red or brick-dust sediment turbid and dark urine, with a sediment of brown sand, and a severe cutting during micturition. Sensation as if a ball were rolling in the bladder.

Laurocerasus.—Retention of urine; pale-yellow urine, scanty, acrid, depositing a thick reddish sediment; burning in the urethra, and pressing after urinating.

Lycopodium c.—Involuntary micturition; stitches in the bladder; frequent emission of large quantities of pale urine; frequent micturition at night, with rare and scanty emissions of urine during the day, urine dark, with diminished discharge; red, sandy sediment in the urine; painless hemorrhage from the bladder; itching in the urethra during and after micturition; greasy pellicle floats on the urine.

Mercurius vivus.—The quantity of urine passed is larger than that of the fluid drank; burning in the urethra between the acts of micturition; inability to retain urine; frequent and violent desire to urinate, with scanty emission in a feeble stream; scanty red urine; urine turbid and fetid; dark-red urine, as if mixed with blood; the urine is very turbid, and deposits a sediment; pieces of white filaments are emitted after the urine; the urine looks as if it contained pus or mucus, and has a sour smell.

Natrium mur.—Involuntary micturition when walking, coughing, and laughing; desire to urinate day and night; stitches in the bladder during micturition, with a smarting, burning sensation in the urethra; pale urine, with brickdust sediment; discharge of mucus from the urethra; dark, coffee-colored urine.

Nitrate of Uranium.—Sore feeling in the pubic region; increased frequency of micturition; profuse nocturnal urination, straw-colored and fetid; burning in the urethra, with very acid urine; desire to urinate immediately after voiding urine.

Nitric acid.—Enuresis; nightly desire to urinate, with cutting pain in the abdomen; scanty, turbid, bad-smelling urine; fetid urine; smarting, burning pain in the urethra while urinating; cramp-like, contractive pain from the kidneys toward the bladder; discharge of bloody mucus, or of pus from the urethra; the urine is cold when emitted.

Nux vomica.—Retention of urine; strangury; painful, ineffectual desire to urinate; painful emission of thick urine; discharge of pale urine, followed by passage of thick, viscid, whitish, purulent mucus from the bladder; reddish urine, with brickdust sediment; burning and lacerating pain in the neck of the bladder during micturition; hæmorrhæa.

Opium.—Atony of the urinary bladder; retention of urine from a weakened condition of the contractile power of the bladder; dark-colored urine, which deposits a brickdust sediment; lemon-colored urine, depositing much sediment.

Parcira brava.—Violent pains in the bladder; pain in the thighs, extending down into the feet; strangury, with paroxysms of violent pain; the urine can only be voided while the patient is on the knees, with the head pressing against the floor; the paroxysms more usually occur in the morning from 5 to 6 o'clock; the urine has a strong ammoniacal smell, and contains a thick, viscid, white mucus.

Phosphorus.—Involuntary emission of urine; urine with a sediment of white flocculi; smarting and burning in the urethra, with frequent desire to urinate; tension over the region of the bladder; acid, offensive-smelling urine; brown urine, with red, sandy sediment; hæmaturia.

Phosphoric acid.—Enuresis, with cutting, burning pain in the urethra, and cramp-pain in the region of the kidneys; spasmodic constriction of the bladder; profuse discharge of watery urine, in which immediately forms a white cloud; milky urine, with bloody, jelly-like lumps; burning in the urethra while urinating.

Phytolacca d.—Copious nocturnal micturition; violent urging to urinate; urine excessive in quantity, or scanty; dark-red urine, which leaves a stain on the urinal or a mahogany color, which adheres very closely; the urine deposits a chalk-like sediment; pain in the bladder before and during micturition; albuminous urine, with increased specific gravity; frequent and painful inclination to urinate.

Plumbum.—Paralysis of the bladder; tenesmus of the neck of the bladder; ischuria; difficult emission of urine; the urine is mixed with blood; copious red or yellow urine.

Pulsatilla.—Vesical catarrh; incontinence of urine; enuresis nocturna; frequent desire to urinate, with a drawing sensation in the abdomen; spasmodic pain in the neck of the bladder after micturition, extending to the pelvis and thighs; involuntary discharge of urine when coughing; the urine is discharged in drops when sitting or walking; burning in the urethra while urinating; hæmaturia; scanty red-brown urine, with brick-colored sediment; bloody or mucus deposit.

Rhus tox.—Tenesmus vesicæ, with emissions of only a few drops of blood-red urine; diminished secretion of urine; incontinence of urine; urine hot, white, and muddy, or pale, with white sediment; dark urine, soon becoming turbid.

Ruta g.—Nocturnal enuresis; continual pressure on the bladder, as if always full; the desire to urinate continues after micturition; involuntary discharge of urine at night in bed, and while walking during the day; frequent urging, with emission of green urine.

Sarsaparilla.—Pain and cramps in the bladder, with urging and burning; urine pale and copious; frequent urging to urinate, with scanty but painless discharge; urine clear and red. Severe strangury, with discharge of white, acid, turbid matter, with mucus; painful retention of urine; urine frequently voided; does not become turbid, but deposits a cloud; frequent and copious discharge of pale urine, which become turbid on standing, like clay-water; urine either too frequent, copious, and pale, or scanty, slimy, flaky, clayey, or sandy; iridescent pellicle on the urine.

Sepia.—Nocturnal enuresis, especially during the first sleep; constant desire to urinate, with painful bearing down in the pelvis in the morning; burning in the bladder and urethra; pressure on the bladder in the evening, with burning after urinating; urine turbid, with red sandy sediment and a cuticle on the surface; urine has an offensive smell and deposits a white sediment.

Squilla m.—Tenesmus of the bladder after micturition; frequent calls to urinate, especially at night, with scanty emission, or profuse discharge of pale urine; sanguinolent urine, with a deposit of red sediment.

Stannum.—Painless retention of urine; the urging to urinate is absent, as in atony of the bladder.

Staphisagria.—Profuse discharge of pale urine, with urging; frequent desire to urinate, with emission of a small quantity of dark-colored urine; burning in the urethra during and after urinating; urging after micturition, as if the bladder had not been emptied.

Strychnia.—Atony of the bladder; retention of urine or incontinence, when these conditions depend on impaired power of the detrusor muscle of the bladder, from over distension.

Sulphur.—Nocturnal enuresis; violent desire to urinate at night; copious micturition after midnight; stitches in the bladder; cutting pain in the urethra while passing urine;

the urine is sometimes clear, and sometimes contains a thick sediment ; rose-colored urine ; fetid urine, a greasy film forming on the surface.

Terebinthina.—Strangury ; dysuria ; violent dragging and cutting pain in the bladder ; burning in the bladder ; urine scanty and red, or bloody urine ; difficult micturition ; the urine has the odor of violets, with deposit of mucus, or a thick muddy sediment.

Thuja o.—Frequent urging to urinate, with profuse emission ; the urine looks like water when passing, but becomes cloudy on standing ; red urine, depositing a brickdust sediment ; burning in the urethra during and for some time after micturition.

Uva ursi.—Hematuria ; painful micturition, with burning ; urine slimy and purulent.

Veratrum a.—Diuresis ; involuntary emission of urine ; painful pressure on the bladder and burning during micturition ; frequent but scanty emissions of dark-red urine ; green urine.

Phimosis is an abnormal contraction of the terminal border of the prepuce, in front of the glans. It may be *congenital* or *ac-*



quired, acute or *chronic*. Congenital, though rare, is when the prepuce is imperforate or nearly so, and the urine not being emitted, collects between the prepuce and glans, forming a sac or tumor. The acquired, is the result of cicatrization of ulcers or chancres, or is sympathetic with gonorrhœa, balanitis, etc. Frequently constitutional symptoms are developed in the chronic

variety, varying from nervous derangements, to complete incoordination of motion and loss of equilibrating power. In the acquired variety the preputial secretion is retained producing much irritation and occasional attacks of inflammation with discharge (balanitis).

Treatment.—The remedies curative of this affection, if surgical action is not demanded, are : *Ac.*, *Arn.*, *Ars.*, *Caps.*, *Cannab.*, *Calc.*, *Hepar*, *Euphras.*, *Hyperic.*, *Merc.*, *Rhus*, *Sepia*, *Thuja*, *Sulph.*, *Viola tri.* The remedy to be selected in accordance with the constitutional and local manifestations.

The *local treatment* consists of warm medicated lotions of *Calend.*, *Hyperic.*, or *Thuja*, frequently employed. When all medical agents fail, recourse may be had to an operation, viz: If the foreskin is long and tight, or thickened by cicatricial surfaces, draw it well forward, hold between the blades of a forceps and cut off by one sweep of the bistoury.* In cases of less severity, the prepuce may be slit up on the dorsum as far as the base of the glans, by means of an oiled director passed under-

* Dr. E. P. Hurd reports a case where loco-motor ataxia was developed in a lad 7 years of age. Various methods of treatment were employed, unsuccessfully. The true cause of the disorder proved to be phimosis;—circumcision was performed with gradual improvement and final recovery. Dr. Thompson, of Albany, N. Y.: Where epileptiform convulsions followed by phimosis, which also recovered by circumcision.

neath the foreskin. The chief seat of constriction being in the mucous membrane, care should be taken that it is well opened, and a second piece snipped out if necessary, and stitched to the skin. Apply cooling lotions of *Hyperic.* to the parts after operation, to prevent inflammation. *Rupturing* the mucous membrane by Hutchinson's forceps has proved successful.

Paraphimosis is the reverse of the former; when the prepuce



is drawn over the glans and allowed to remain there, producing contraction and stricture of the foreskin; serious results may follow. The penis is constricted; the skin becomes œdematous, and the mucous lining of the prepuce, and the glans become congested, followed by ulceration or sloughing; the strangulated glans being ill provided with resistant power or control, may become gangrenous and ultimately die.

Treatment.—In recent cases efforts should be made to reduce the stricture and restore the glans from its incarceration. The parts having been well oiled, the surgeon takes the penis between the fingers of both hands, and draws the constricted portion slowly but steadily forwards; with the thumbs at the same time, he compresses the glans, and pushes carefully backwards. If this fails, the constriction may require division by raising a fold of the skin by introducing a sharp pointed bistoury beneath the tightened band, and cutting outwards, when reduction can be effected. Local applications of *Hyperic.* or *Staph.* should be employed and the patient placed in a recumbent position, with the penis elevated, so as to favor the circulation of blood through the weakened parts.

The following remedies may be beneficial in overcoming the inflammation in the external structures, viz: *Arn.*, *Apis.*, *Ars.*, *Merc.*, *Calend.*

Herpes of the Glans and Prepuce is characterized by the formation of small vesicles or excoriated points upon the mucous membrane of the glans, attended by smarting, itching, and chiefly occurring in persons of a gouty dyscrasia, with an irritable mucous membrane. Treatment will be required to overcome the constitutional irritation. Local lotions of *Rhus. rad.* or *Ranunc.*

are very beneficial. Internal remedies are *Dule.*, *Hepar.*, *Graph.*, *Merc.*, *Phos.*, *Rhus tox.*, *Ranunc.*, *Sarsap.*, *Sepia.*, *Telbur.*, *Tigllum*, cleanliness, etc.

Hypertrophy of Prepuce is the result of chronic irritation or disease; is usually limited but may become so extensive as to call for surgical interference. It consists of solid œdema of the areolar tissue of the prepuce, and of the sub-integumental structures of the body of the penis, which becomes enlarged and club shaped. For remedies consult *Nat. carb.*, *Graph.*, *Elops cor.*, *Cal. seg.*, and *Puls*. Surgical relief consists in the excision of a v-shaped piece from the dorsum of the penis, or circumcision.

Condylomata, Warts or Sycosis often follow gonorrhœa, particularly if the patient has not observed due cleanliness, the discharge being permitted to lodge beneath the prepuce. They are generally situated along the corona or on the frenum; in females they occur about and in the pudenda. They present different appearances; are fig-shaped, cauliflower like, or like a cock's comb, pear or raspberry.

Pathology.—The pathological condition is a morbid thickening of the chorion, rete mucose and epidermis, with hypertrophy of the papillary body. They sometimes appear at the verge of the anus, the angles of the mouth, and perineum; are soft, spongy, bleed easily and are liable to return after cauterization, excision or ligature. They secrete a peculiar gleety and fetid fluid, and are dependent upon venereal infection.

Treatment.—The remedies are: *Acid. nit.*, *Cannabis*, *Lye.*, *Phos. ac.*, *Calc. c.*, *Merc. cor.*, *Magn.*, *Staph.*, *Sabin*, and *Thuja*. I have never failed in the cure of these little pests by excision and *Nitric ac.*, or *Thuja* applied to the base and at the same time given internally.

Horny Excrescences sometimes spring from the glans penis and appear first as soft, semi-transparent masses enclosed in complete cysts. As they increase in size they become dense and hard and assume all the characteristics of horny structure. They grow slowly and sometimes attain considerable size. An instance of this growth is reported by Dr. Jewett, of Connecticut, who describes it as $3\frac{1}{2}$ inches long, and $\frac{3}{4}$ of an inch in diameter at the base. Treatment, see horny tumors page 134.

Persistent Priapism is the result of excessive venery. The erection of the penis is not accompanied with any sexual desire, but is attended with great pain; a feeling of weight about the perineum; much anxiety and constitutional disturbance; the organ is singularly hard and unyielding, and may remain in this position for hours and even days.

The *pathology* of this disease is supposed by some to be the result of extravasation of blood into the corpora cavernosa; by others it is referred to sympathetic or reflex nervous irritation. A case of this kind I saw many years ago at St. Louis, in a newly married couple, where the organ became so hard and unyielding that I was compelled to incise the corpora cavernosa and let out a quantity of blood. After a few hours, with three or four doses of *Ac.*, given internally, and followed by *Caut.*, I succeeded very soon in overcoming the trouble.

Gangrene of Penis occurs in broken constitutions from syphilitic phagedæna, or as the result of gonorrhœal phimosis. This is an exceedingly rare disease at the present time, owing either to non-mercurial complication, or to the gradual decrease of the more virulent forms of syphilis. Treatment, like gangrene in other parts, which see.

Fibroid Tumor of the Penis.—The penis may become the seat of this affection in common with other structures of the body, and the tumor maintains the same peculiarities that occur in the ordinary fibroid growth, and is treated the same as in other parts. See fibroid tumors.

Chronic Orchitis, or *sarcocoele* of some authors, may be the result of an imperfectly cured acute orchitis, or it may be chronic from the commencement of the disease, resulting from gonorrhœa, or occurring as an independent affection. The epididymis is often the primary seat of the disease, which gradually involves the whole gland and presents the appearance of an inelastic, uniform, oval tumor, exceeding two or three times the size of the normal testicle. The disease progresses insidiously, the sensitiveness of the gland is largely lost; is more severe at night than in the day time, and when it is accompanied with effusion within the tunica vaginalis, it is termed *hydro sarcocoele*. Its *pathology* consists of a yellow solid lymph, effused in-

to the substance of the gland, extending into the vas deferens and deposited in the túbuli seminiferi. Its smoothness, uniformity, gradual progress, and absence of glandular enlargement distinguishes it from malignant disease of the testicle.

Treatment.—Rest in a recumbent position, with applications of *Ham.*, *Bell.*, or *Hyp.* lotions, the scrotum being supported by a hair pillow, as in all cases of inflammation of its external structures. Give one of the following remedies: *Aur.*, *Clem.*, *Agnus. c.*, *Graph.*, *Argent. nit.*, *Bell.*, *Kali c.*, *Kali jod.*, *Lyc.*, *Rhodod.*, *Merc.* and *Rhus.* Strapping the testicle and use of a suspensory bandage (see orchitis).

Fungoid Growths of Testicle following orchitis are of two varieties, *benign* and *malignant*. In the benign, the mass is granular, hard, very sensitive and not disposed to heal; bleeds easily. The growth is paler and more consistent than the former, with tumefaction of the cord. Pressure upon the testicle produces that peculiar sickening sensation resembling a healthy condition; while the malignant is soft and spongy, color darker, with frequent attacks of hemorrhage, and pressure upon the testicle gives no sickening sensation.

Treatment.—The remedies are: *Merc. vir.*, *Phos.*, *Clem.*, *Calc. c.*, *Ars.*, *Con.*, *Baryt.*, *Carbo. veg.*, *Mez.*, *Kali. c.*, *Nit. ac.*, *Spong.*, *Oleand.*, *Thuja.* When remedial agents fail, castration is the only means of relief. See remedies for orchitis.

Cystic Sarcocoele is an enlarged, somewhat elastic, indurated, lobulated and globular tumor occupying the testis, attended with weight, heaviness, aching and numbness, with an enlarged and varicose state of the veins of the cord. It is a rare disease, grows insidiously, with cystic fluctuation at its upper portion, resembling somewhat hydrocele of the cord. The enlarged testicle may become of very great size.

Pathology.—A stroma of various modifications of connective tissue in all stages of growth, in the midst of which are irregular epithelial spaces, which dilate and form cysts lined by epithelium. It may become malignant by degeneration, the stroma assuming the form of cancer, and the epithelium taking on the true carcinoma cells. It is said by Curling to be the result of morbid changes in the ducts of the rete testis. It may be confounded

with the hydrocele, but the absence of translucency, its globular shape, weight and varicose state of the veins of the cord will determine its nature. An exploratory incision will solve all doubt, or the use of the aspirator will determine diagnosis.

Treatment in dubious cases: *Apis*, *Col.*, *Calc.*, *Dig.*, *Ars.*, *Con.*, *Graph.*, *Lyc.*, *Plat.*, *Sepia*, *Sil.*, and *Sulph.* I cured two cases of well marked cystic disease of the testicle with *Apis*, and *Conium*. Removal of the diseased gland is the last resort of the surgeon.

Enchondroma of the Testicle is a frequent accompaniment of cystic sarcoma, and may appear alone, deposited in larger or smaller nodules, or infiltrating the gland. Its usual seat is the body, but it may invade the epididymis. When it attains a large size it loses its purely cartilaginous character, and is found mixed with sarcoma-tissue and complicated with cysts, and merges into the disease just considered. For treatment consult enchondroma under the head of tumors.

Cancer of the Testicle, or Malignant Sarcocoele invariably assumes the encephaloid character, and is the only form of cancer ever occurring in that gland. *Symptoms*: dragging pain and weight, with induration and enlargement; tense and elastic, but smooth and heavy; as it increases it becomes rounded, doughy or pulpy, sometimes hard and knobby; the cord becomes enlarged, hard and knotty, and the scrotum becomes adherent to the growth; ulceration, and finally a fungus projects, when all doubt will be removed as to the nature of the malady.

Treatment.—Refer to carcinoma. Removal of the organ is advised; to be of permanent service, it should be done early.

Hypospadias is an arrest of development in the medial line of the penis, leaving a slit or a fissure connecting with the urethra; occurring on the under surface of the organ and is confined to the glans and upper part of the penis, though it occasionally extends backward to the root of the organ, cleaving the scrotum in twain, and is erroneously considered as examples of hermaphroditism. See part xviii, operative surgery, page 657: malformation of the urethra. Treatment, is plastic operations, though they are mostly incurable.

Epispadias.—This is the reverse of the former, where the deformity occupies the upper surface of the penis; it is a rare deformity and is referred to the condition termed extroversion of the bladder. See part xviii, operative surgery, page 657.

CHAPTER VI.

Stricture of the Urethra may be either *spasmodic* or temporary, *inflammatory* or pathologic, *organic* or permanent, involving three distinct conditions. In the first, there is a spasmodic action of the muscular tissues surrounding the urethra, and is the result of high living, stimulation, exposure, free sexual indulgence in persons of excessive nervous irritability; irritation in the rectum, dependent upon ascarides, hæmorrhoids, fecal accumulations, etc. The second proceeds from congestion or inflammation in the structures of the urethra, wherein an inflammatory stricture exists. It occurs in gouty and rheumatic subjects, suffering from irritability of the skin and mucous membrane.

Treatment.—The two former conditions yield readily to appropriate medication. In the early stages prompt relief will be afforded by the sitz bath, hot sponge, or hot fomentations to the perineum. Richardson's nebulizer, chloroform, or either of the following remedies, in accordance with their pathogenesis, may be given: *Ac., Bell., Canth., Con., Lach., Graph., Gels. Camph., Clem., Dig., Merc., Eupat. p., Cann., Nuc. v., Thuja., Petros., Prunus. s., Sandalum.,* etc., etc. A soft flexible catheter or bougie may be used after the inflammatory contraction has in part yielded, which may be employed from time to time, till all pathological conditions have yielded to treatment. Consult special indications at the end of this chapter.

The size of the male urethra as influenced by the size of the penis has been made the subject of much controversy. Dr. Otis contends that there always exists a constant relation between the size of the flaccid penis and the capacity of the urethra. Helmuth and others on the contrary maintain an opposite opinion and my experience corroborates that of Prof. Helmuth, "that a small penis may have a large urethra, and the tube may be of small calibre in an organ of good size." The urethra is subject to abnormal contractions during its whole extent. The portions of the urethra most liable to stricture is also a matter of dispute. I

am inclined to accept the views of Dr. Otis, that a large proportion of strictures are found within the first *four inches* from the meatus and they decrease in frequency as you measure toward the vesical opening. In one respect however all authors agree in assigning the most frequent position to be at the sub-pubic curvature. Small urethras are more predisposed to stricture than large ones: in all cases the danger of permitting gleet to run on indefinitely is very great, as it will almost invariably eventuate in stricture, which of itself should arouse the apprehensions of the surgeon as to the existence of stricture.

Permanent or Organic is the result of inflammation in or near the urethra; is due to the organization of plastic lymph during the inflammatory stage either upon the surface or into the sub-mucous areolar tissue. Causes, ill-treated gonorrhœa, ulceration, intemperance; morbid urine, or traumatism; its character varies, sometimes annular, long or one sided, and partakes of a gristly cartilaginous material, blocking up and contracting the urethra. Its most frequent seat is in front of the pubic arch; once formed it tends to become worse.

Pathology.—Contraction gradually increases the size of the urethra behind the structure which dilates and becomes sacculated. The muscular coat of bladder thickens and hypertrophies, sacculi are formed; the mucous membrane is disordered; its evil influences gradually extend backwards; ureters become distended and tortuous; kidneys congested and prone to inflammation. Calculi may be formed and a general nervous depression is produced. It is not a disease of advanced life except when it proceeds from venereal disease.

Symptoms.—Frequent desire to void urine, with pain and difficulty; stream diminished, twisted, forked or scattered; urine dribbles away after evacuation; uneasy sensation in perineum; itching at the glans, with gleety discharge. As the affection progresses all symptoms increase; irritation extends to the testicles, prostate and thighs. In bad cases the urine passes drop by drop with much straining; rigors or prostration, fits of retention take place, through congestion and spasm; pain during coitus, with a sense of heat and soreness in perineum. The first thing to be done in the treatment of stricture is to ascertain its locality

and extent. To accomplish this the urethra-meter of Otis is most reliable. It is introduced into the urethra closed, and having passed it onwards as far as the membranous portion, the surgeon turns the screw in the handle until a sensation of fulness is felt by the patient, when it is gradually withdrawn till it engages the stricture. At this point the screw must be turned in the opposite direction until it is reduced to such a size that it will pass the obstruction. The hand on the dial will mark the size of the stricture. The bougie a boule, or the metallic bulbous sound is also used to define the locality and extent of the stricture. Dr. Otis has invented an urethral endoscopic tube for viewing the interior of that canal. It is six inches in length, and from 17 to 19 of the English scale. Having ascertained the location and extent of the stricture, the next process is its cure, or rather to restore the canal to its normal calibre, and maintain it in that state. To the accomplishment of this object the profession is greatly indebted to Dr. Otis, of New York, for his valuable suggestions and practical experience in the treatment of this disease: The question then presents itself is whether we shall follow the treatment of Dr. Otis of slitting open the stricture, divulsing it, or overcoming it by dilatation. The last of these processes is, I think, the best adapted for the cure of stricture. These mechanical measures are: 1st. Dilatation by a bougie or sound. 2d. Dilatation by means of expanding instruments. 3d. By a catheter retained. 4th. By the caustic bougie. 5th. By incision from within. 6th. By external incision or dividing it from the perineum. Compensating strictures occur in front of the main one, and the anterior portion of the canal becomes alternately dilated and contracted by the stream of urine being deflected in an oblique direction after it passes the first obstacle. The point of impingement against the urethral wall takes on inflammatory action, and the result is a compensating stricture. Like all derangements of compensation, the secondary stricture relieves the morbid status of the primary one.

Treatment is to give early attention to all disorders of the system, mental disquietudes, and especially those involving the pelvic organs, chastity, temperance, rest, early hours, warm baths and remedies given to meet the various subjective symp-

toms that may arise. In this way very much relief may be obtained, and in some cases cures have been effected. The chief remedies are : *Dig.*, *Clem.*, *Eupat. purp.*, *Prunus.*, *Sepia*, *Gels.*, *Bell.*, *Thuja*, *Acid nit.*, *Kali jod.*, and medicated plasters to the perinæum. When medication fails then use the second class of remedies, which is to restore the urethra to its normal caliber, and to maintain it so. This is done by gradual or forcible dilatation, incisions, or electrolysis. Gradual dilatation consists in passing a graduated bougie from time to time until the urethra is restored. In very bad cases use a horse hair, a filiform bougie, a whale bone guide, or a metallic sound. Be careful of the entanglement of the instrument in one of the lacunæ, and beware of *false* passages. A skillful hand will detect the slightest irregularity or accident. Remember every stricture can be cured that permits the slightest flow of urine. Dilate *gradually* if possible and begin with the smallest filiform bougie, increasing the size from time to time till restoration of the canal. *Rapid and forcible* dilatation may be made when the stricture yields readily and time is of the greatest moment to the patient. This is effected by divulsion (Otis' or Holt's dilators), or internal division by the urethrotome. In the latter case care must be exercised to divide the stricture *entirely*, which can be ascertained by passing one of Otis' bulbous sounds. In very resilient strictures, two or more attempts may be required to completely cut through the stricture; if success is desired the division must be *thorough*. The operation requires great care and an intimate knowledge of the structures, as well as considerable experience in manipulation. All internal operations are referred to two important principles: division of the structure *from* or *towards* the bladder, each process having its own advocates. I prefer dividing it from the vesical side to the meatus.

Dr. Otis an ardent advocate of internal incision, thus writes: "I am a believer in the *true curability* of urethral stricture, notwithstanding that authorities are a unit to the contrary. I think I can bring evidence that will be convincing, that in the great majority of cases of urethral stricture, a complete eradication of the trouble is within the reach of every competent surgeon. To warrant the reasonable expectation of cure, the stricture must be

completely divided at some one point, and this cannot be with certainty accomplished without a knowledge of the *normal* urethral calibre. The normal calibre once ascertained by means of the urethra-meter, or by measurement of the flaccid penis, the method by which the sundering of the stricture at some one point is accomplished may vary, and rest with the judgement of the operator. If dilatation or divulsion be selected as the medium through which to effect this result, the procedure must be carried far enough to *completely* rupture every fibre of the contraction; if division, *every fibre* must be completely severed, or subsequent re-contraction is certain. Neither divulsion alone, or simple urethrotomy, is capable of effecting this with any certainty. It requires a combination of those two methods to accomplish the desired result; my first dilating urethrotome was constructed for the purpose of meeting these necessary requirements which has proved permanent so far as the principles of operation is concerned." He further adds: "In all cases of stretching *at or near the meatus*, I am accustomed to make the divulsion on the *inferior* wall of the canal, and very thoroughly, with a straight bulb-pointed bistoury. The utmost freedom to the passage of the bulbous sound must here be insisted on and not a single trace of contraction left uncut." As a means of preventing inflammatory action after operation upon the penis, Dr. Otis uses cold water, "by means of a small india rubber tube arranged so as to encircle the penis and through which water of any desired temperature is carried by syphonic action." In none of the 100 cases reported by him, has subsequent dilatation been attempted or required to effect a cure after the healing of the wound made during the operation. The use of sounds subsequent to the operations, is simply to separate the cut surfaces, and not for the purposes of dilatation and their use is discontinued so soon as a full-sized bulb can be passed through and beyond the previous site of stricture and withdrawn without a trace of blood accompanying or following the use of the instrument. Recontraction of stricture, after operation is simply due to the incomplete division, and this will as a rule, be detected within one week, or at most two weeks, by which time stricture tissue *distended* not *divided*, will sufficiently recontract to become readily

recognized by the full-sized bulb. If, then, no stricture can be recognized, the cure of the difficulty may be considered *complete* and no further treatment will be required." The urethrotome of Dr. Otis is one of the latest and very best instruments devised for that purpose. It is made to cut from before backward and in my hands has equalled its fullest commendation. Nevertheless I hold it as a rule that every stricture can be cured by dilatation that permits the passage of the smallest filiform bougie through it.

External Urethrotomy may be justified only in exceedingly obstinate cases, in traumatism, or in impassible strictures. Syme's method, or rather modification of external incision, is the only safe and sure means of performing this operation from without. The patient is placed in the lithotomy position, a grooved director (after dilatation of the stricture) is passed through the stricture, the left forefinger as a guide introduced into the rectum, and a straight bistoury, its back to the rectum, is plunged into the median line of the perineum behind the stricture, and *into the groove of the director*, when the bistoury is made to divide the stricture from behind forwards. Another method which I hold to be preferable to this is to shave the perineum, introduce a capillary whale bone bougie (probe pointed) carefully into the bladder, pass along this a grooved metallic staff, engaging the free end of the guide, an assistant holds the staff and guide. The surgeon, after an examination per rectum, incises freely the skin and superficial fascia of the perineum along the median line from the base of the scrotum to within half an inch of the anus. Dissect inwards till the urethra is seen, and divide it, the knife falling into the groove of the catheter. The edges of the urethral incision are kept open by loops of silk. After withdrawing the guide the stricture and a corresponding portion of the urethra are divided by a modified canalicular knife. The catheter is now introduced into the bladder. I have performed this latter operation three times successfully, yet I regard it as a principle which should guide every surgeon, that while a director or curved grooved staff can be made to pass the stricture, external urethrotomy is never justifiable; internal urethrotomy produces the best results. A catheter may be retained in

the bladder by a ring placed around the penis, which is secured to the body, and attaching two pieces of narrow tape from the rings of the catheter to the ring around the penis. Another simple contrivance is to pass around the catheter a piece of thin gauze or linen, and make it encircle the penis, then put around all an india rubber ring. A catheter may be retained in the female bladder by a T bandage, and two narrow pieces of tape attached to the two tails of the vertical portion of the roller.*

Electrolysis is the best, most satisfactory, and most rational means of treating stricture under any form or method. The *modus operandi* is as follows: "Introduce into the urethra an electrode *soaped*, not oiled, one size larger than the stricture will admit (insulated to the tip) down to the stricture; attach to the *negative* pole of the battery; complete circuit by the broad sponge reophore, moistened with salt and water, placed in the hand of the patient or upon some part of his body. As soon as the patient *feels* the current, the intensity is sufficient, and should not be increased beyond this point. Be careful to avoid all production of pain, keeping the electrode pressed in contact with the stricture, but not forced, in a few minutes we find the electrode slipping through the stricture easily. If a second stricture is found treat it in the same way. Repeat this operation every few days till the stricture is cured. A current from 6 to 12 cells of † McIntosh's elements is all that is needed. Great stress is laid upon the introduction of the *negative* electrode, as the positive produces an eschar which heals by cicatrization, and instead of curing a stricture, will increase it. I have seen this method tried with most brilliant results in several cases. For subsequent internal treatment of the urinary and other troubles that arise during the local treatment recommended in this disease, see remedies presented under special indications at the end of this chapter.

Retention of Urine must not be confounded with suppression, wherein no urine is secreted, but is an inability to void the con-

* See Franklin's Minor Surgery; bandaging, etc.

† McIntosh Galvano Faradic batteries are by far the best instruments for performing electrolysis that I have ever used. I have been so many times disappointed in the use of other instruments that I have at times abandoned the idea of this brilliant and successful method of cure. Since my attention has been called to the McIntosh instrument I have made two remarkable cures of this terrible disease, and I cannot too highly recommend its use.

tents of the bladder. There are two varieties, first, a want of power in the bladder to perform the act, and second, an obstruction to the passage of urine. The first is due to some lesion of the spinal cord, followed by paralysis. The urine collects in the bladder, is forced out and dribbles away by the urethra. For treatment see cystitis, page 61.

Symptoms.—Retention from obstruction has an urgent desire to pass water with inability; straining; pain, with great anxiety and distress; the bladder rises above the pubes, forming an elastic, fluctuating tumor, dull on percussio; if retention is not removed, the ureters become involved, the kidneys are affected with pyelitis, suppression, followed by coma and death. It frequently happens that the urethra yields behind the point of obstruction and extravasation of urine results.

Treatment.—When retention results from stricture, or enlargement of prostate, the cause must be removed if possible, by catheterization; if this cannot be effected, try warm baths, belladonna, enemas, chloroform, anæsthesia, electro-magnetism; conjoined with one of the remedies recommended under the head of special indications at the end of this chapter. If all means fail, recourse must be had to puncture by trocar and canula through the rectum behind the prostate, above the pubes, or by aspiration; the latter is by far the safest and freest from danger. After relief, attention must be given to removal of cause.

Extravasation of Urine may proceed from the bladder or urethra, by ulceration, from surgical operation, by direct violence, stricture or traumatism. *Symptoms.*—Patient is conscious that something has given away, perhaps while straining; the rupture is in front of the triangular ligament; relief is afforded; soon the scrotum and lower abdomen become infiltrated with urine; the skin is stretched, crepitates, feels doughy, and if not met with free incisions, sloughs and becomes gangrenous; inflammatory symptoms of an asthenic type follow; the tongue is brown; great prostration ensues, with a tendency to delirium. If extravasation is from injury, the rupture occurs in the urethra, perhaps in the bladder, the latter being most certainly fatal. *Treatment:*—Free incisions, to give vent to the imprisoned urine and the case treated as in gangrene.

Urinary Abscess is a frequent result of stricture and follows ulceration of the urethra, terminating in abscess in the perineum, taking its origin from the bulb or membranous portion of the urethra.

Symptoms.—It begins as a small, hard, circumscribed and painful tumor in the perineum and increases steadily; produces some constitutional trouble with weight and throbbing in the perineum. heaviness in the loins, uneasy sensation at neck of the bladder, with shivering, nausea and febrile manifestations; suppuration results, the pus is discharged naturally or artificially, and there remains a fistula through which urine continually escapes.

Urinary Fistula forms most frequently in the perineum as a consequence of stricture or urinary abscess as above stated. They are sometimes met with in the groin, inside of the thigh, and in the scrotum; they are usually single in the scrotum and penile portions of the urethra, but are numerous in the perineum; they differ in size and tortuosity; the scrotum and penis become enlarged, indurated, and almost cartilaginous in structure; the urine oftentimes is entirely voided through these openings. *Fistulæ* may likewise arise from injuries or falls, by which the urethra is ruptured; the urine is then extravasated into the loose cellular tissues of the perineum and scrotum, where it occasions much inflammation and distention of the textures, merging perhaps, into gangrene and sphacelus, and becoming a disease of the most serious import. It sometimes lays bare the urethra and testicles, at others, it dissects its way in different directions, producing one or more fistulas, and endangering the patient's life. A very interesting case of this kind was presented at my clinic last year, U. of M., where there were *two* fistulas, the one terminating in the rectum, the other above the pubes, and about midway between the symphysis and the anterior superior spinous process of the ilium. I operated upon this case after the rectal opening was occluded, by making Syme's external urethrotomy, opening into the urethra at the point of rupture, and introducing a seton into the pubic fistula, downwards to the urethra, and emerging it at the perineal opening. Within three days I had the satisfaction of seeing all the urine pass through the new orifice along side of the seton. I gave directions to have a strand or two of the seton

removed every day or two after the stream was well established through the perineal opening, with the intention of closing and healing up the pubic fistula, and transferring it to the perineum, and the boy returned home under the care of his physician, with the intention of returning to have the case completed. By some inadvertence the seton came out, and as a consequence the perineal opening closed, and the urine again escaped through the pubic aperture. The case fell into the hands of another surgeon; several unsuccessful operations were made; the patient grew rapidly worse and was sent home in a more serious condition than when he left me. Since then, I have no knowledge of the case.

Treatment.—The first thing is to dilate the urethra and establish the natural channel for the urine. The next to cure the fistulæ; this may be done by free incisions to the bottom of the fistulæ, and dressings applied so as to heal them from the bottom to the surface; it is often effected by constitutional and local remedies. The remedies of most service are: *Ars.*, *Berb.*, *Calc.*, *Carb. am.*, *Phos.*, *Puls.*, *Sil.*, and *Sulph.*; in small fistulæ, cantharides in tincture, injected into the sinus; incisions and galvanism, and an urethro-plastic operation may be required.

Prostatitis.—The acute form is produced by gonorrhœa, injuries, irritation of the genitals or rectum, and exposure to cold or wet.

Acute Symptoms are pain, heat in perineum, tenderness on deep pressure; frequent micturition, and with difficulty; painful evacuation of the bowels; rectal exploration denotes enlargement of the gland and tenderness to touch; fever and thirst accompany; terminates in resolution, suppuration or abscess.

Chronic Prostatitis, common to mature age, comes on insidiously. There is weight and fullness in the perineum extending to the anus; pain with diminished power in voiding urine; urine cloudy; gleety discharge; pain in coitus and defecation, and sometimes spermatorrhœa, and cystic irritation; muscular fibre hypertrophied; sometimes the whole gland is enlarged. At others one lateral lobe; occasionally the middle lobe between the "ejaculatory ducts" is involved. This alters the course and dimensions of the urethra. It will be *twisted* when one lateral lobe is enlarged. *flattened and compressed* when the posterior middle lobe is hyper-

trophied; as a consequence the urine is passed slowly and with great pressure; incontinence, discomfort, and urinary tenesmus follow.

Treatment.—*Ac.*, *Bell.*, *Hepar*, *Puls.*, *Merc.*, *Thuja*, for the acute, and *Agnus*, *Alum*, *Bar. iod.*, *Calc. jod.*, *Con.*, *Dig.*, *Caut.*, *Lyc.*, *Kali h.*, *Iod.*, *Hepar*, *Senecio*, *Sepia*, *Sil.*, *Puls.*, *Thuja* and *Sulph.*, for the chronic. Long continuance of the appropriate remedy, is required. *Surgical treatment.*—Long shaft and large curve, or ordinary sound; the vertebrated bougie is highly recommended in aggravated cases.

Senile Hypertrophy of the Prostate.—This affection peculiar to old age consists of an hypertrophy or enlargement of the natural muscular structure, and incidentally of the glandular. The increase may be but slightly above the normal size, that of a chestnut, to the bulk of a man's fist or even larger. If it affects the whole organ uniformly, the prostatic portion of the urethra will be lengthened; if one side is involved more than the other, the canal will be twisted; if it affects the posterior median portion, the part which lies between the ejaculatory ducts, enlargement of what is called the *middle* or *third lobe* takes place, when the prostatic portion of the urethra is either very much narrowed, twisted or obstructed, or it is extended into a sort of pouch which eventually contains calcareous formations, thereby adding to the sufferings of the patient. *Fibrous* tumors also are developed within the organ involving more or less granular tissue, adding to the constitutional trouble.

The symptoms which are developed are, slowness and difficulty in making water, weight in the perineum and tenesmus. The bladder becomes irritable with frequent urination. The projection formed by the tumor prevents all the urine from being voided, a portion remains behind, decomposes and becomes ammoniacal. Sometimes there is complete retention with its attendant troubles; at others, the mucous coat of the bladder, irritated by the alkaline urine, inflames and secretes a viscid mucus, and finally the kidneys become disorganized; the ureters dilate and the urine continually dribbles away, and the patient dies exhausted. During the manifestation of these phenomena, the constitutional symptoms become more and more marked, fever,

sweats, painful micturition, sleeplessness, and constant urinary irritation wear away the life of the sufferer. Physical examination per rectum, will reveal the nature of the trouble.

Treatment.—The urine if possible, must all be removed from the bladder several times a day by a prostatic catheter. Squires' vertebrated catheter is highly recommended for this purpose.

The medical treatment consists in the use of one of the following remedies according to indications, viz: *Agnus c.*, *Apis*, *Alum*, *Cyclam.*, *Copaib.*, *Dig.*, *Caut.*, *Hepar*, *Lyc.*, *Puls.*, *Secale*, *Selenium* and *Sulph.*, *acid*. The *Iodide of Potash*, *Iodine*, *Puls.*, *Calc. c.*, *Sil.*, *Thuja.*, and *Sulph.* exercise a curative control if given early. See special indications.

Special Indications.—**Acon.**—With great urging to urinate; great pain in micturition, or in milder cases when there is great pain in walking, especially going down stairs.

Aloes.—Sensation as if a plug is wedged between the symphysis and coccyx, pressing downward; incontinence of urine from enlarged prostate.

Apis mel.—Excessive pain in vesical region; frequent desire to urinate; pressing down in the region of the sphincter; the calls to urinate are both day and night; severe pain in passing urine as if some impediment prevented.

Caut.—Pulsations in the perineum; pain in urethra and bladder after a few drops have passed; spasms in the rectum, with renewed desire for micturition.

Chinaph.—Sensation of swelling in perineum, when sitting down, sensation as if a ball was pressing against the perineum; excessive itching and painful irritation of urethra from the end of the penis to neck of the bladder; prostatic disease, with waste of prostatic fluid; urine thick and ropy.

Conium.—Discharge of prostatic fluid on every change of emotion, with voluptuous thoughts and itching of prepuce.

Copaiv.—Urine is emitted by drops; burning and sensation of dryness in the region of the prostate gland; induration of the prostate.

Cyclamen.—Drawing, pressing pain in the perineum, and in and near the anus as if a small spot was undergoing ulceration; increased when walking or sitting.

Digital.—Fruitless efforts to urinate, or discharge of only a few drops of urine and continued fullness after micturition; throbbing pain in region of neck of the bladder during straining effort to pass water; increased desire to urinate after a few drops have passed, causing the patient to walk about in great distress, although motion increases the desire to urinate; frequent desire to defecate at the same time; very small soft stools passed without relief.

Hepar.—Discharge of prostatic fluid after micturition and during hard stool; also independent of either.

Iodium.—Swelling and induration of the testicles and of the prostate gland; incontinence of urine in the aged.

Kali bi.—Stitches in prostate when walking; must stand still; prostatic fluid escapes at stool; painful drawing from perineum into urethra; after micturition, burning in hack part of urethra as if one drop had remained behind, with unsuccessful efforts to void it; stitches in urethra.

Lycop.—Pressing on perineum near anus, during and after micturition; stitches in neck of bladder and anus at the same time; urging to urinate; must wait long before it passes; incontinence of urine.

Ol. Sandal.—With sensation of pain and uneasiness deep in perineum; desire to change position constantly to get relief; stream small and passed with hesitation; sensation of a ball pressing against urethra; pain decreased when walking; increased when standing some time; heaviness in the feet in the morning when first rising from bed; sexual powers weak; erections feeble; urine red and scanty. (Clinical).

Populus.—Enlarged prostate; painful micturition; catarrh of bladder.

Psorinum.—Discharge of prostatic fluid before urinating; frequent scanty urine, burning and cutting in urethra.

Puls.—Painfulness in the region of bladder; frequent desire to urinate, dull stitch in the region of the bladder; spasmodic pains in neck of the bladder extending to pelvis and thighs; faeces flat, of small size from enlarged prostate.

Selen.—Prostatic juice oozes while sitting, during sleep, when walking, and at stool, causing a disagreeable sensation; the same sensation is felt shortly before and after stool.

Saph.—Frequent and copious urination; hurrying in the whole length of the urethra, when urinating, for many days; frequent urging, with scanty discharge of a thin stream of red-looking urine; urging as if the bladder was not emptied; discharge of dark urine by drops.

Thuja.—Syphilis and sycosis, especially suppressed or badly treated gonorrhœa; stitches in urethra from behind, also from rectum into the bladder.

Escape of urine involuntarily drop by drop: Arn., Bell, Mur., *ac.*, Dig., Petr., Puls., and Sepia.

Difficulty in voiding urine; must press a long time before it flows: Alum., Apis., Hepar, Nuph., Sec. and Tax.

The stream of urine is small: Graph., Olean., Sars., Spong., Staph., Sulph., Tax. and Zinc.

Burrowing in the neck of the bladder while urinating: Cham., Nux., Petr. and Sulph.

After micturition desire continues: Bar. c., Bov., Calc., c., Canst., Dig., Merc., Ruta., Staph. and Zinc.

Impossibility to urinate: Dig., Sepia.

Continued desire to urinate: Amin. c., Apis., Bell., Canth., Copaib., Dig., Iod., Merc., Mur. *ac.*, Phos., Puls., Sep., Scilla., Sulphur and Thuya.

Pulsation in perineum: Caust. Heaviness in the perineum: Copaib and Graph. In favorable cases prostatic ends in resolution. Badly managed cases suppurate, and abscesses extend and perforate into the rectum, urethra or bladder and discharge: other cases assume a chronic form and by exudation, infiltration and deposition of tubercles and cysts produce a permanent enlargement.

SECTION I.

Gonorrhœal Ophthalmia (*Ophthalmia Gonorrhœica*).

Definition.—An acute specific inflammation of the conjunctiva of the eyeball and lids, and characterized by a profuse discharge of yellow purulent matter, similar to that which issues from the urethra in gonorrhœa.

This disease is the most violent, rapid, and destructive to which the eye is subject. Frequently, when the patient applies for relief the eye is irreparably injured, and unless the course of the disease be promptly arrested the eye will be lost.

In this form of ophthalmia, as also in the purulent or contagious variety, there is great danger that the conjunctiva will swell extremely and overlap the margin of the cornea, and lead to its sloughing, apparently by strangulation of the vessels by which it is nourished. When this condition occurs it is called *Chemosis*.

Cause.—The disease arises from the accidental contact of gonorrhœal matter with the eye, and not, as some have supposed, from a metastasis of the disease from the organs of generation to the eyes. In this way, the matter may be accidentally applied to the eye of a healthy person through the medium of cloths, towels, etc. Even children are sometimes thus contaminated. The disease presents similar symptoms to purulent ophthalmia, and to that disease affecting infants.

The disease is usually confined to one eye; if the other be dis-

eased, it is because there has not been sufficient care to prevent inoculation.

Treatment.—*Acon.*, *Arg. nit.*, *Merc.*, *Bell.*, *Sulph.* (See "Leading Indications for Ophthalmic Medicines," below).

Accessory Means.—Assiduous bathing, fomentations. iced-water compresses, etc.; astringent *collyria*, and sometimes surgical measures.

Leading Indications for Some Ophthalmic Medicines.—**Belladonna.**—Pain, redness, and swelling; throbbing pain in the temples or eyes; flushed cheeks, glistening eyes, and great intolerance of light. One or more drops of the remedy may be mixed with half-a-dozen tablespoonfuls of water, and a teaspoonful given during the acute stage every hour, and afterwards every three to six hours. Bell. is often required when there are general feverish symptoms; or a few doses of *Acon.* may precede Bell.

Aconitum.—Ophthalmia, with quick pulse, dry skin, thirst, and when arising from cold. The early administration of this remedy, with the local use of local compresses, will generally promptly relieve and cure catarrhal ophthalmia. For Gonorrhœal ophthalmia Dr. Angel recommends it every hour, with the topical application of ice, or iced-water, and *Acon.* during the first stage.

Mercurius Sol.—Ophthalmia marked at first by a copious discharge of watery fluid, which afterwards changes to mucus and pus; agglutination of the lids; smarting heat and pressure, with aggravation of the pains when moving or touching the eyes. There is considerable itching and irritation, but not much fever present.

Mercurius Cor.—In the most violent forms of acute ophthalmia with extreme dread of light, or in chemosis, the 1st or 2d dec. att. of this remedy will often cut short the attack.

Euphrasia.—Catarrhal ophthalmia, with profuse secretion of tears, sensitiveness to light, stinging as from sand, and catarrhal inflammation of the frontal sinuses and of the lining of the nose. In simple catarrhal inflammation, profuse lachrymation being the chief symptoms; it often cures without the aid of any other remedy. In severe cases it may be applied locally.

Argentum Nit.—This remedy is especially valuable in the purulent ophthalmia of children, which it cures rapidly and completely, without the local use of the nitrate. It is also valuable in chronic ophthalmia. Dr. Dudgeon highly recommends it as homœopathic to gonorrhœal ophthalmia: two to four grains to an ounce of distilled water; a small quantity of the solution to be introduced under the eyelids with a camel's-hair brush once a day, or every two, three or four days, according to the symptoms.

Phytolacca Decandra.—Itching in the eyes, aggravated by gaslight; chronic conjunctivitis, and rheumatic pains; reddish-blue swelling of the lids.

Arsenicum.—Obstinate ophthalmia in weak, nervous patients, particularly if the secretion be acrid, with burning, tearing or stinging pains in the globe and lids; aggravated by light; paroxysms of pain; violent stabbings in the eye; eyeball feels like a globe of fire.

Phosphorus.—Chronic and obstinate cases which have resisted the usual remedies, with sensitiveness to light, heat and itching of the eyes, sudden attacks of blindness, black spots floating before the eyes, and secretion of viscid mucus.

Ac.-Nit.—Purulent ophthalmia; swelling and redness of the mucous membrane and lids; secretion of viscid mucus or pus; burning and smarting in the eyes; photophobia; nightly agglutination; and pains in the bones and parts around the eyes. *Ac.-Nit.* is required in cases originating in syphilis, or aggravated by mercurial preparations.

Gelsemium.—Squinting; desire for light; orbital neuralgia.

Pulsatilla Nat.—Eyelids agglutinated; increased secretion of tears; neuralgic pains in the eyeballs.

Hepar Sulph.—Similar cases to *Ac.-Nit.*, which it may follow, if necessary.

Arnica.—Inflammation affecting either the mucous membrane, or the deeper structures of the eye, from mechanical injuries. In addition to its administration, the eye should be bathed with a lotion of *Arnica* (twelve drops to four tablespoonfuls of water). After well bathing the eyes, a piece of lint or linen should be saturated with the lotion, applied to the eye, covered with oil-silk, and secured by a handkerchief.

Additional remedies.—*Sulph.*, *Sil.*, *Puls.*, *Lyc.*, *Aur.*, *Rhus*, *Spig.*, *Tussilago pet.*, *Thuya*, *Macrotin*, and *Euphorbin*.

Accessory Measures.—In the treatment of the various forms of ophthalmia, with weak and imperfect vision generally, the cause of the disease should be correctly ascertained, so that they may, as far as possible, be guarded against or removed. Patients in crowded and unhealthy towns should resort to the country, at

least for a time, where they may take daily out-of-door exercise, and enjoy a pure, bracing air. Frequent, careful, tepid washing of the eyes to prevent accumulations of matter; the occupation of a spacious well-ventilated apartment; and avoidance of all causes likely to keep up the inflammatory process, are necessary precautions. The food should be plain and nourishing; coffee and fermented drinks being excluded; the habits early and regular, and frequent bathing should be practised. A small *wet compress*, covered with oil-skin or india-rubber, worn over the nape of the neck is a valuable counter-irritant when the more violent inflammatory symptoms have been subdued; it is also useful in obstinate cases. The alum curd poultices I have used with good results.

Gonorrhœal Rheumatism differs from ordinary rheumatism in that it follows one or more attacks of gonorrhœa. It has pain, swelling, weakness, and rigidity of the *larger* joints and overlying muscles. The knee joint is most frequently attacked; motion increases pain; the affected parts are inclined to become cold; are sensitive to damp and changeable weather; fever and pain are not so marked as in ordinary arthritis; generally occurs toward the decline of gonorrhœa. Attacks in preference young people of a delicate strumous habit.

Treatment.—The remedies are: *Ac.* or *Gels.* in the first stage, subsequently, *Bry.*, *Clem.*, *Kali jod.*, *Kalm.*; aggravated by motion, *Mezer.*, *Sarsap.*, *Sulph.*, *Thuja.*, *Cimicif.*, *Euphorb.*, *Rhus*, *Sep.*, *Stram.*, *Verat.*, and *Phytol.* The hot springs of Arkansas are highly beneficial.

Special Indications.—**Acon.**—During febrile disturbances; when the large joints are affected with little rigidity; when the heart is attacked with congestion and a sense of anguish; in rheumatism of the shoulders.

Bry.—When the lower limbs are affected; severe pains in the joint; heat and dryness of the parts; severe pains shooting down the limbs; shining, red swellings; greatly increased by motion.

Arn.—Stiffness in the large joints; tearing pain in the smaller joints, with a tearing, bruised sensation.

Canst.—In rheumatic swellings and stiffness of joints; enlarged joints with topi; contraction of tendons; shooting and tearing pains, especially in chronic cases, and scrofulous patients.

Cimic.—Local forms of rheumatism, with muscular implication; heart affections; wandering pains.

Rhus tox.—When sheaths of tendons and muscles are most affected; tightening, lameness, tearing, bruised and sprain like pains in the larger joints; aggravated at night by the warmth of the bed, or when beginning to move after rest; lessened by gentle and continued motion; chronic thickening of joints; affection of periosteum.

Rhodod.—Pains worse during rest, in the warmth of the bed, and with every unfavorable change of the weather, especially when easterly winds prevail; swelling and redness of both large and small joints; tension and rigidity.

Puls.—When ankle, instep, or knee is affected; fugitive pains in various parts of the body; pains moving from one point to another, especially in females with menstrual irregularities.

Merc.—Puffy swelling of joints; pains deep-seated in the bones or joints increased by warmth and at night; profuse perspiration which do not give relief.

Phytol.—Chronic cases, with swelling and stiffness of joints, even to loss of motion in the limb; when periosteum is implicated. Consult Guaiac and Mez.

Sulph.—After remedies when improvement halts; to complete the cure begun by another remedy; hereditary taint or when associated with eruptive disorders.

Ledum.—Rheumatism of small joints, fingers and toes; chilliness.

Dule.—Rheumatism from exposure to wet, changes of weather from dry to damp increases pains; relieved by rest.

Colch., Coloc., Bell., Kalibi., Ranunc bulb., Mang., may be advantageously employed as accessories.

Rheumatic patients should always wear flannel and warm clothing to guard against atmospheric changes. Protect the feet from cold and damp. Occasionally warm salt-water, vapor or hot air baths, are very useful. Diet should be easy of digestion, and all condiments avoided.

Gonorrhœa in Women is a much less formidable disease than in men, arising from the fact that the parts inflamed are comparatively less sensitive, more expanded and structurally more simple.

Symptoms are much less acute than in males, and it is much more apt to degenerate into a chronic gleet. Complications are bubo, and ulceration of the neck of the womb. The discharge may proceed from either the external parts; the labia, nymphæ, meatus urinarius, vagina or from the cervix uteri; when it involves the cervix it will be associated with superficial ulceration; differentiate carefully between it and leucorrhœa, and the various discharges that follow simple derangement of the uterus and urethra. Verminous affections produce purulent discharges of the vulva in young girls. The presence of urethritis accompanied with acute inflammation are the strongest symptoms of gonorrhœa. Frequent desire to pass water. The speculum should be employed in all doubtful cases.

Symptoms—There is urgent desire to pass water; heat, burning, swelling, and discharge, muco-purulent, and offensive; attended with swelling and irritation of the clitoris, the mucous membrane is reddened and tumefied, with high inflammatory action.

It occurs under four forms, gonorrhœal *vulvitis*, *urethritis*, *vaginitis*, and *uteritis*.

G. vulvitis is where it attacks the external organs of generation; the symptoms are heat and pruritus; the mucous membrane is of a deeper red than usual, moist and slightly swollen, and it is fol-

lowed by scalding on urinating, bearing down pains, and a feeling of weight in the external genitals. The discharge at first albuminous, assumes soon a purulent character; irritating and offensive, which occasionally gives rise to nymphomania, a most distressing complication. Small abscesses sometimes form in the vicinity of the vulvo-vaginal glands.

G. urethritis.—This is rarely met with in the female as a distinct affection; it is associated with vulvitis. It is indicated by a burning urethral pain, intensified during micturition; the discharge is slight; lips of the meatus red, swollen and painful. The finger introduced per vaginam detects a thickening of the urethra; upon pressure against the pubic arch, it feels like whip-cord; abscesses sometimes form in the vagina and perineum, and the glands of the groin enlarge and suppurate.

G. vaginitis.—This is the most frequent seat of the disease, the membrane looks red, is hot, and devoid of moisture; itching, smarting pain exists, with frequent micturition: the vagina feels hot and puffy, and soon there exudes a large quantity of yellow, or greenish, muco-purulent matter. In a few days the discharge diminishes and the disease becomes chronic and difficult to cure. The anterior half of the vagina immediately under the arch of the pubis is the part most affected, which presents an aphthous appearance when examined with the speculum.

G. uteritis.—Vaginitis extends sometimes to the internal surface of the uterus when it becomes a severe disease and difficult to manage. The ovaries may become implicated, the general health undermined, and the reproductive processes interfered with. The os becomes excoriated, the uterus congested, and there exudes from it a gleety, whitish matter, offensive and at times quite abundant. The diagnosis between it and leucorrhœa can only be made in some cases by inoculation.

For vulvitis, *Ac.* and *Merc.*, in the acute stage; *Thuja* and *Sulph.*, in its chronic form. For vaginitis, *Ac.*, *Bell.*, *Merc.*, and *Puls.* in the acute form; *Sepia* and *Kreosote* in sub-acute varieties. For urethritis, *Ac.*, *Can.*, and *Canth.*, in the active stage; and *Copaib.*, *Petros.*, *Cubeba.*, and *Sulph.* in the chronic. For uteritis, *Ac.*, *Canth.*, *Nit. ac.*, and *Merc.*, for the acute type; *Sepia*, *Platin.*, and *Alum* for the sub-acute. Great cleanliness,

warm fomentations, and medicated lavements of *Alum*, *Hyd.*, *Tannic ac.*, and *Borax*, will be found very servicable during treatment.

Treatment is the same as that recommended for the male. Frequent ablutions and injections should be employed; the vagina well distended with the injection is an important auxiliary in the treatment, and should be insisted upon. The fountain syringe and the vaginal douche is one of the best instruments for purposes of injection. Hip baths are valuable auxiliaries. The temperature should be regulated according to the feelings of the patient. Hygienic measures should be rigidly enforced, and sexual congress prohibited for at least ten days after all evidence of the disease has passed away.

SECTION II.

Chancroid is the simple, soft, non-infecting sore, or local contagious ulcer, unaccompanied by any prominent and perturbing influences in the system. The recent developments of the disease, and the present unsatisfactory condition in which its kin disorder, *chancre*, is held by those who have had abundant means of observation, and the many theories propounded, in reference to its course and effects, are evidences of the still undetermined nature of the disease, and the progress made towards a keener realization of its true character.



Pathology.—The period of incubation is short, say from 24 hours to the third day after infection. It begins as an ulcer which develops immediately after absorption of the poison. Its shape is round or oval, and only becomes irregular from fusion of multiple pustules; the edges are clean cut, perpendicular, often everted and undermined, seldom single; is rarely present except on or near the genitals, is of a yellowish color with a reddish areola around the sore; is auto-inoculable; is situated in the sulcus between the prepuce and the glans, particularly at the

sides of the frenum. The base of the ulcer is soft, can be lifted up from the structure lying beneath, and is easily compressed between the fingers. The lymphatic glands in the groin (bubo) soon become inflamed and usually suppurate; toxic elimination follows, and the system escapes contamination. Four varieties of bubo are presented, the *simple*, *indolent*, *virulent*, and *spontaneous*. The three former are of the venereal type; the latter may be produced by a strain, cachexy, local injury, or indolent ulcer on the leg. Rarely the sore spreads deeply and rapidly, and this only when mercurialization has been produced, or when a peculiar constitutional dyscrasia exists in connection with the chancroid.

About two-thirds of all chancreoids remain purely local, the other third is attended with bubo, which may be either inflammatory and resolve itself, or indolent and suppurate. The term bubo I shall apply to enlargement of any lymphatic gland in the body having for its immediate cause a recent venereal ulcer. It is more common in men than in women, and in strumous, lymphatic constitutions, rather than in those of a vigorous type. In the *simple* bubo as a rule, only one gland is affected; it occurs early, within a week or two after the chancreoid is developed. It begins with a sensation of stiffness in the groin; is sensitive to pressure, and painful from walking and ascending stairs. The pain keeps pace with the increasing enlargement; becomes red and œdematous, and soon a central soft spot appears, indicating suppuration, and if left to itself opens and discharges.

The *indolent* bubo occurs in impaired constitutions; it grows slowly, involves the neighboring lymphatics, and all become matted together by inflammatory changes into a compound tumor. Increasing in size, it presents a livid, shining, dead hue, sometimes smooth, œdematous and increases to the size of an egg, occupying the folds of the groin. Its course is variable; at times it becomes peri glandular when it opens through the skin with one or more small perforations, which discharge a small amount of sanious fluid containing a few pus corpuscles. The glands do not break down, but the discharge may continue for months and even years if not attended to, leaving rigid fistulæ to discharge interminably.

The *virulent* bubo is a subcutaneous chaneroid, and is a violent form of the indolent type, and when opened to the air, its true chaneroid characters begin to appear. The cut edge of the skin is immediately inoculated and the whole cut border ulcerates, and the opening grows larger by being eaten away by the advancing ulceration. The borders of the ulcer become hard, livid and undermined; the integument adjoining the ulcer assumes a dusky, purplish hue and sloughs away. The floor of the abscess is uneven, pultaceous, irregular, worm-eaten, and discharges an ill-conditioned pus, inoculable upon the sufferer. It has all the appearances of a true chaneroid, and is subject to all the conditions and complications to which a chaneroid is liable. Phagedena may attack this kind of bubo in either the sloughing or serpiginous form, the latter of which is the most common. Its course usually is upwards over the abdomen, destroying the connective and cutaneous layers down to the deep fascia, sweeping away everything except the glands, leaving a raw ulcerated spot in the groin and over the abdomen as large as the hand.

The *spontaneous* bubo is a simple lymphangioma arising from a strain, fatigue, struma, cachexy, local injury, etc., and has no connection with either chancre or chaneroid. Its accidental position in the groin only gives it interest in a differential point of view from the general bubo.

For the treatment of these ulcers consult the chapter on ulcers, and special indications for the remedies demanded for each, page 21.

Treatment.—Local treatment consists in touching the ulcer in the early stage, or pustule when first discovered, with strong nitric acid, and light dressings of *Calend.*, *Acid nit.*, or *Hydrastis*. The constitutional remedies are: *Acid nit.*, *Acid carbol.*, *Ars.*, *Caut.*, *Merc.*, *Carbo. veg.*, *Cinnab.*, *Kali bi.*, *Lyc.*, *Phos. Ac.*, *Sepia*, *Sil.* If the inguinal glands become inflamed they must be treated the same as inflammation of glands under other circumstances, by hyperdistension, etc. Whenever the system is impaired by any cause, attention should be given to its reinvigoration and support. If any complications arise, such as phagedena, or any of its varieties, which is rare now-a-days, good results may be obtained by the internal use of *Ars.*, *Carbo. v.*, *Brom.*, *Kali chlor.*, *Graph.*, *Nitric* and *Sulph. ac.*, *Stilling.*, *Tart. emet.* See hospital gangrene, special indications, page 27.

Mixed Chancre is a combination of chancreoid and syphilis; each sore runs its course and the compound lesion possesses characteristics of both. The existence of the chancre offers no protection against the invasion of chancreoid, and vice versa, and neither affection interferes with the progress of the other, this is a rare form of the disease, and the treatment must necessarily include the local applications adapted to chancreoid, and the constitutional remedies employed in syphilis. See special indications, page 99.

Syphilis.—The recent investigations of this hitherto dreaded disease have proven its present mildness as compared with the former virulence that marked its existence. Mr. Keys speaks of it as “a disease of magnificent exceptions, full of absorbing interest,” and *Prof. Dana says “that the disease



is not so virulent now as it was during the century when it first conspicuously appeared,” and all authors agree that its severity from some *cause* has abated. To what is this cause attributed? To my mind the answer is, that the wide spread dissemination of the disease

throughout the world, and the almost universal prevalence of its hereditary characteristics, have established an immunity from its severe attacks, just as vaccination wherever practised, has given protection to the heretofore deadly ravages of small-pox. This, coupled with the fact that professional men have been gradually lessening the poisonous quantities of mercurials given to cure the disease, has in my opinion done very much to strip this disorder of the horrors with which it was associated during the reign of the crude, destructive doses of mercury. It is true that the *type* of the disease whenever manifested proves that its nature has not changed, its features have not altered; but its sting has become less virulent, and consequently less dreaded. There is no question of the fact, that of all people, occupations, or trades, there are none in whom the manifestations of syphilis would be more prominent, its characters more universally displayed, than in the seamen of this and other countries. Yet we

* Prof. Charles L. Dana, on the Benignity of Syphilis.

observe among this class such a mildness in syphilitic attacks, such exemption from the virulence of the past, such an immunity from its constitutional characteristics that we are forced to accept the doctrine of its growing moderation and agree with Prof. Dana. First: That syphilis, as a rule, runs a very mild course indeed, among American seamen, and physically incapacitates them less than either soft chancre or gonorrhœa, with their complications and sequelæ. Second: That it runs this course often without treatment, and almost always in spite of irregular living and unhygienic surroundings.

Symptoms.—The initial lesion of chancre begins as a papule, generally single, or an erosion with indurated areola; it either remains to the end, or the papule bursts, and an ulcer with a hardened base is the result.

The virus has a lengthened period of incubation (15 to 25 days) before development of the papule. It is usually circular; its edges are smooth; not undermined; often elevated and adherent, and gradually melts into the shining floor of the ulcer. It may exist on any part of the body, but more frequently on the genitals. Its secretion is scanty and serous in character, unless irritated when it assumes a purulent form. It is not auto-inoculable. One attack exempts from subsequent invasion; it is peculiar to man; is seldom phagedenic, and shows little disposition to spread; is slow in development but heals rapidly when once reparative action begins. The affection of the inguinal glands is usually *painless, multiple, and rarely ends in suppuration*, unless due to extraneous causes. The disease, though at first manifesting local trouble may become constitutional, and then the person can never be inoculated with the virus of the chancre. "The proportion of chancre to chancroid is about 1 to 3," says Dana, in his reported tables of the U. S. Marine Hospital service, and according to the tables of Dr. King, the mortality from syphilis was 1-40 of one per cent. From a return to the House of Commons of all the deaths from syphilis in the *workhouses* in England and Wales, beginning in the year 1875, there are only eight per million.

DIFFERENTIATION BETWEEN TYPICAL CHANCROID AND CHANCRE.

CHANCROID.

1. Nature and cause.—*A local tissue disease, caused by contamination with chancroid pus in sexual intercourse; auto or hetero-inoculation of chancroidal pus.*

2. Situation.—*Upon the genitals or in the groin; very uncommon elsewhere.*

3. Number.—*Often multiple, both in origin, and by spontaneous auto-inoculation.*

4. Second attack in same individual *entirely possible.*

5. Auto-inoculability.—*Always possible in generations.*

6. Transmissible to animals.—*Possible.*

7. *Begins as a pustule or an ulcer, and so remains; advances rapidly; heals slowly; no incubation.*

8. Color.—*Dirty yellowish white, or pinkish with free creamy secretion.*

9. Induration *absent*; edges perpendicular; floor *uneven and dull*, with pain.

10. Phagedæna, an occasional complication.

11. *Bubo occurs in about $\frac{1}{3}$ of all cases, either simple or virulent, and painful as a rule.*

12. *No appreciable constitutional contamination.*

13. *Syphilis, as a result of chancroid, impossible.*

14. *Local treatment all-important.*

15. *A chancroid may be cured by cauterization without, and not produce consequent trouble.*

CHANCRE.

1. *A general blood disease, caused by contamination with syphilitic virus in sexual intercourse; hetero-inoculation of the chancre virus upon a non-syphilitic person.*

2. *Upon the genitals; not unfrequent upon the lips, nipples and fingers; very uncommon elsewhere.*

3. *Generally single; sometimes multiple from the start; not usually spreading by spontaneous auto-inoculation.*

4. *Almost impossible.*

5. *Impossible, unless the ulcer secretes pus.*

6. *Quite improbable.*

7. *Begins as papule, or an excoriation, and remains an indurated ulcer; advances slowly; heals quickly; has a distinct incubation from 5 to 20 days.*

8. *Livid red or bright blood color, or gray, with scanty, serous, sanguinolent discharge.*

9. Induration *invariably present*; edges *slanting and adherent*, with smooth, bright floor, and painless.

10. *A very rare complication.*

11. *Invariable and always indolent, exceptions 2 per cent. of all cases; never becomes virulent; painless as a rule.*

12. *Constitutional contamination occurs as a rule.*

13. *Syphilis, as a result of chancre is invariable.*

14. *Local treatment unimportant.*

15. *Chancre cannot be cured by cauterization, and not produce constitutional implication.*

Treatment.—The remedies which are most successful in curing this disease are the following: *Ars., Iod., Aurum., Badiaga, Carbo an., Carbo veg., Cinnabar, Corydal., Kali bi., Kali hyd., Lach., Lyc., Merc. cor., iod., sol., and Nitric ac.*

Constitutional Treatment. The most important of all these remedies are the mercurials, and if we examine into the pathogenesis of *Merc.* we will find that no remedy possesses such a closely related similimum to syphilis. It is upon this very *homœopathic* principle, as Dr. Bumstead reproachfully says,

"that the elastic principle of *similia similibus* is also made to cover" the true curative action of this disease. This "*elasticity*" proves the essential element of the homœopathic law, and its engraftment upon allopathic practice "covers" all that is valuable in that system in the cure of syphilis. With all due deference to some of our friends, who seem better versed theoretically than practically in the treatment of syphilis, I believe, as I have oftentimes asserted, that the mercurials, as a rule, are the only really reliable remedies for the cure of the indurated chancre, and it is through this remedy, properly administered, and diligently continued, that patients are dismissed "cured," without the necessity for their return to the surgeon, as has been sneeringly written by some who preach better than they practice.

Let us compare the effects of syphilis on the human system, with the toxicological symptoms of *Mercury* as given by Pereira, in his famous *materia medica*, justly accorded as one of the very best works on that branch in the allopathic school:

SYPHILIS.

Syphilis produces on the skin pustules, scales and tubercles.

Syphilis excites inflammation of the periosteum, and caries of the bones.

Syphilis produces inflammation of the iris.

Syphilis produces inflammation and ulceration of the mouth and throat.

Syphilis produces enlargement and hardening of the glands.

Syphilis produces chloro-anemia, a diminution of blood corpuscles and an increase in the proportion of serum.

Syphilis produces ulcers on the genital organs.

MERCURY.

Mercury, says Pereira,* produces severe forms of skin diseases.

Mercury produces inflammation of the bones and periosteum, says Pereira.

Mercury produces a disease called mercurial iritis.

Ulceration of the mouth and throat is a well-known effect of mercury, says Pereira.

Mercury produces enlargement of the inguinal and other glands, says Deterich.

Mercury diminishes the coagulability of the blood, and increases the proportion of serum.

Mercury produces ulcers with induration on the glans and prepuce, says Fick, of Hamburg.

* Pereira's *Materia Medica*, vol. 1, p. 588, et sequitur.

The difference between the two prevailing schools, is simply this, that while homœopathic practice cures the disease "*tuto cite et jucunde*"; allopathy too often dooms the unhappy victim to all the attendant horrors of mercurial toxæmia, which, according to Mr. Druitt's own confession, is *useless*, except to show that the system is affected. Prof. Gross also remarks: My own opinion is, "that the more simple and gentle the mer-

curial course is the better." Prof. Keys* says syphilis is "a self limiting malady." Prof. Dana† remarks that the disease is innocuous as compared with its early history. Prof. Keys states, that it gets well under all treatment, but yields best to *small doses of mercury*, continued for a long time. Diday remarks that it is cured by the grace of God; that is the do-nothing treatment. Sigmund and Zeissl, two late German authors of high position, render their verdict in favor of Diday's method of treating syphilis. Keys says the question now is how to use mercury, and he settles the matter for the old school, and recommends what he terms the "tonic dose," which is one-half of the "full dose," viz.: 1-12 of a grain of the proto-iodide of mercury, and in *late years*, he has been in the habit of using a much less quantity, for instance, one equal to $\frac{1}{3}$ instead of $\frac{1}{2}$ of the "full dose," which is equivalent to 1-18 of a grain of the crude drug. With this diminished "tonic dose," he adds, that it is given, "rather to his advantage, (the patient) for he feels well under it in most cases; he eats well, his functions go on perfectly, and his blood is richer in red corpuscles than it was before." He also recommends that this dose shall be continued for about "three years," and "a year's freedom from evidences of the disease, is desirable before the tonic is stopped." (This is good similia practice.) I mention these facts, gathered from recent and approved allopathic authority, to show that the tendency in that school is to yield their old and cruel treatment of the ponderable doses of mercury, with all its multiplied horrors, to the minute and all curative remedy of the recognized "elastic" similium. While these things are being done in the old school, to the credit and the relief of poor humanity be it said, I ask what is the position of our own syphilographers upon this important subject. The only two representative authors in the homœopathic school who have written late surgical treatises, including the treatment of this disease, seem to be further from the mark, so far as an intelligent knowledge of the method of curing syphilis homœopathically, than those of our allopathic brethren whom I have previously quoted. One proclaims his belief that the disease *can be cured*, but only in *material doses*,

* Venereal diseases, page 104,

† In a monograph on Venereal Diseases.

oft repeated, and recommends *mercurials* to be employed in the *first trituration*; while the other declares that syphilis is "absolutely incurable," except it be "by the extinction of the sufferer, and the absence of any heirs of his body;" yet in the treatment, the latter gives most profoundly and most unerringly, "*full indications for remedies*," and adds, "the *corrosivus* is the *sole similitimum*, so far as my (his) experience goes." How far does that experience go, when the true and "sole similitimum" yields up its curative powers and negatively awaits the slow extinction of the sufferer. With all due deference to such authority, I still believe as before stated, that mercurials are the only real and reliable remedies in the treatment of the indurated chancre and it is through this remedy properly selected and judiciously given, that cases are being continually dismissed as "cured," without the necessity of coming again under the notice of the surgeon. I have "cured" hundreds of these cases both in hospital and civil life in a practice of nearly forty years, by the aid of mercurial treatment, without imposing upon my patients the painful penalties of the remedy or compelling his return for further treatment, and this I have accomplished by the higher potencies. I also believe, that with the higher potencies, there is just as much certainty in "*curing*" this disease, as any other affection in the nosology, and the longer I continue in the practice of prescribing for this disease, the more I am convinced that the higher potencies act the most promptly, the most certainly and most curatively. As a rule, I employ the corrosivus in persons of strong vital reaction, and the proto-iodide, or the solubilis in those of scrofulous systems, dyscrasias, broken-down bodies, and in females. No disease at all equal to syphilis in obstinacy and virulence, yields a more ready response to the indicated remedy than this.

Mixed Chancre.—The *mixed chancre* of Rollet combines both the characteristics of chaneroid and chancre. Each sore runs its distinct course, and the compound lesion possesses the peculiarities of both, and the treatment must be adapted to the combined characters. One may be cured before the other is fairly developed, when attention must be given to the remaining sore. The mixed chancre is very rare.

Urethral Chancre is one of the least common of all chancres, and is situated just within the meatus, one of the lips of which

it may involve. It will be felt as a tumor along the course of the urethra, with pain on urinating and during erection. A slight discharge usually accompanies its presence, of a mucro-sanguinous character. This may continue for three or four weeks, and there is some danger that the cicatrix may produce a stricture of greater or less importance. The inguinal glands also become affected as in the ordinary chancre.

Chancres in different parts of the body are to be treated in the same manner as those already spoken of.

The Excision Treatment, or rather the attempt to cure syphilis radically by excision of the chancre, is a recent and interesting method of effecting a cure of this disease, based upon the theory that "the poison, after being absorbed, lies latent locally throughout the period of incubation, and then commences to increase in quantity, at first locally. It is unnecessary to enter into a discussion of a theory which is neither sustained by analogy or fact.

Auspitz, a German syphilologist of considerable repute, has attempted to prove the affirmative of the proposition, but on close analysis his statements are unsatisfactory and unreliable.

The inunction method, the vapor bath, fumigation by volatilization of mercury, are dirty, unscientific and dangerous plans of employing the mercurial treatment, and no true homœopath should be induced to try such crude and unsatisfactory measures, when the whole range of mercurials, and their various attenuations are so easily obtained. A rule to guide us in the treatment of true syphilis is the condition of the floor of the chancre. If it exhibits a reddish, unhealthy appearance, or if the color of the spot presents any strong contrast with the surrounding tissue, it is almost certain evidence that the constitutional disease is not completely cured. Treatment should be continued till the original base of the chancre is covered with healthy tissue and no difference is perceptible between it and the contiguous structures. The practice hitherto so strongly insisted upon of destroying the chancre by the violent caustic preparations employed, cannot be too strongly reprobated. The destruction of the chancre in this way does not cure the disease already transmitted to the system; on the contrary, it removes a valuable guide in

our treatment, and there is no other way open to us whereby we can determine the condition of the patient, or the progress of the case. The appearance and characteristics of the spot where the chancre existed is the syphilo-metre, whereby we can safely and surely prognose the progressive recovery of the patient, or otherwise. When the caustic agents are employed to destroy the chancre, the systemic contagion becomes more intractable and complicated with the various conditions that develop during the progress of the disease. Confusing and complicating symptoms arise, making it difficult oftentimes to select the proper remedy, and the patient may finally succumb to "all the miseries of ill health," referable to his cruel treatment in the early period of his disorder.

Treatment.—One of the preparations of mercury, given with reference to the constitutional and moral states of the patient, the form, extent and duration of the ulceration must be selected and diligently preserved, etc. The greatest cleanliness locally and generally should be insisted upon; dressings to the local sore enforced, and rest as far as possible enjoined. The following remedies in reference to the progress and persistence of the disease may be given according to their indications, etc., etc.

1. Primary Syphilis.—*Mercurius* (hard chancre); *Ac. nit.* (Sloughing chancre, or if mercury has been given to excess); *Merc. cor.* or *Cinnabar* (combined gleet and syphilis); *Thuja* (wartlike growths); *Bell.* (inflamed and painful buboes); *Ars. iod.* (buboes, painful and threatening suppuration); *Phyto.* *Podoph.*, or *Sulph.* (co-existing chancre and skin affections).

2. Secondary Syphilis.—*Ac. nit.* and *fluor.*, *Eryng. aquat.*, *Merc.*, *Cundurango*, *Iodium*, *Kali chl.* (sore throat and mouth); *Merc. cor.*, *Kali hyd.* (iritis); *Aurum*, *Stylingia*, *Sarsap.* (rheumatic or bone pains).

3. Tertiary Syphilis.—*Kali hyd.*, *Aurum*, *Phos.*, *Ac. phos.*, *Sil.*, *Mez.*, *Asaf.* (nodes and bone diseases—exostosis, caries, necrosis, etc.); *Ars.*, *Ars. iod.* (cachectic ulcers); *Aurum*, *Kali bi.*, *Calc. c.*, *Kali ch.* (ozæna); *Aur.*, *China*, *Phos.*, *Carbo. veg.*, *Ars.* (syphilitic cachexia).

4. Hereditary Syphilis.—*Merc.*, *Ac. nit.*, *Aur.*, *Phyto.*, *China.*, *Ars. iod.*, *Sulph.*, *Iodium.*

Special Indications.—**Mercurius sol.**—This remedy stands in the front rank among the few that are capable of destroying the venereal poison in the system. Its pathogenesis contains nearly the entire phenomena resulting from venereal infection. It is of special value in primary symptoms, and in inherited syphilis of infants and children. Dr. S. P. Hedges, of Chicago, Ill., has found that whenever it fails to cure, the diathesis of the patient is complex; so that no one remedy will alone effect a cure. It is specially indicated in Chancre with *red* edges, cheesy or lardaceous bottom, *painful*, and readily bleeding. Chancre with indurated base and margin. Erythematous and papular eruption; ulcers in the throat; fauces and tonsils swollen, inflamed and ulcerated; rupia with violent itching; necrosis; emaciation, with slow hectic fever.

Acidum nit.—Constitutional syphilitic ulcerations, especially the inherited ulcerations of children, and when the mercurial Cachexia has been engrafted upon inherited syphilis. Chancre with raised edges, bleeds easily and profusely; pale, flabby, and prominent granulations; ulcers inclined to spread in circumference rather than in depth; fungous growths; discharge corrosive; buboes threaten to suppurate; coppery and violet colored spots on the skin, squamia, rupia, mucous tubercles, condylomata, drawing and pressing pains in the head. Also in primary chancre, with spongy, elevated margins, not painful, but bleeding readily and profusely. The remedy should be administered in both high and low dilutions, and not too hastily abandoned if one dilution has not answered.

In case of sloughy (eating) ulcers, *Ac. nit.* should be used topically in a low caustic form, and thus will be found to act well with its constitutional administration.

Kali hyd.—No remedy surpasses this as an antidote to the syphilitic poison in the secondary, and especially in the tertiary form of the disease, nodes, gummata, Erythema, tubercular skin eruptions, ulcers on tonsils, periostitis, and coryza are distinctly under its influence. After abuse of mercury, hard bubo in a scrofulous system; ulceration of nose, mouth, or throat, with corrosive burning discharge; lancinating pains in the throat; secondary and tertiary types of syphilis, threatening abscesses, system depressed. The pain of nodes is quickly relieved, and when not very chronic, the nodes soon disappear. According to Ringer, large doses arrest the rapid sloughing of some syphilitic sores, and promote the healing process.

Mercurius cor.—Chancres inflamed and painful; ulcers with a lardaceous floor which secrete a thin ichorous pus; acute inflammatory bubo, secondary symptoms make an early appearance, in iritis with affections of the conjunctiva, soft, flat condylomata, mucous tubercles. Chancre, with ichor adhering to the bottom, and discharging thin pus which stains the linen; combined chancre and gonorrhœa; buboes; skin affections; the symptoms being worse in bed, and at night.

Cinnabar.—Similar symptoms to the above occurring in scrofulous, indolent constitutions. Useful in secondary and tertiary forms; chancres with hard base in scrofulous persons; the middle of the chancre is raised and fungoid; indurated bubo; iritis with pain in the supra-orbital region; circular ulcerations of the skin, mouth and throat, ulceration of the tonsils in the secondary stage when the vegetations and mucous patches are the predominant lesions.

Merc. prot.—Painless chancres; when the glandular system is largely implicated, inguinal glands large, swollen, but not disposed to suppurate; affections of the throat, indurated tonsils; secretions small in quantity but tenacious; orchitis following venereal taint.

Acid fluor.—Secondary syphilis of the throat and tongue, or osseous caries, pains in the bones generally.

Cundurango.—Congestion of the schneiderian membrane, extending to the frontal sinus; pimples, pustules and blotches on the skin, especially the lips, giving rise to painful cracks in the corners of the mouth. It first came into notice by an accidental cure of constitutional syphilis.

Arsenicum.—Gangrenous sores, with florid unhealthy granulations, which bleed on the slightest touch, and are painful and burning; or painless ulcers secreting a watery, corrosive, and offensive fluid; rapid emaciation, prostrating diarrhœa; scaly skin, or malignant ulcerations in the secondary or tertiary stage.

Arsenicum-iod.—According to Dr. H. Noah Martin, of Philadelphia this remedy excels all others in the rapid cure of venereal bubo. It quickly reduces and disperses acute swellings of the inguinal and axillary glands, even after the peculiar throbbing pains have set in which seem to threaten suppuration.

Belladonna.—As an occasional remedy, *Bell.* is very beneficial; especially in cases in which there is great pain, redness, and erysipelatous appearance.

Thuja.—Warty growths (Sabma, if they are large, moist, and painful); small warts on the iris; mottled eruptions, condylomatous excrescences on the penis, vulva and about the anus, painful inguinal glands; purulent pimples; brown or red mottled spots with itching; red nodosities; rupia.

Carbo veg.—In cachexia syphilitica; extreme prostration; impairment of digestion, suppuration of bubo; parts livid and mottled; falling off of the hair; furfuraceous desquamation; yellow skin, with impairment of digestion, etc.

Carbo an.—Bubo assuming the phagedenic type.

Merc. prec.—When bubo puts on a phagedenic form and the various ulcerative processes become destructive as in affections of the long bones; nodosities with severe pain at night.

Aurum.—Ulceration of the mouth and nose; ozœna, bone diseases, sarcocele. Particularly beneficial when the system has been broken down by the combined influence of syphilis and mercury, and the mind, equally depressed, dwells upon suicidal thoughts. Mercurial cachexy: syphilis in the secondary and tertiary forms; ulcers of nose and mouth, with fetid discharge; necrosis of the nasal bones; nodos-

ities of cranial bones; ulcers and crusts within the nose, with putrid smell; burning and boring pains in the bones.

Sarsaparilla.—Purulent vesicles, itching furiously; various skin affections.

Sulphur.—As an intercurrent remedy in all stages: in superficial ulcer, with a lardaceous base; when the disease threatens to assume a serious form, or is very obstinate; also of special value in syphilis.

Phosphorus.—Affections of the long bones, or the jaw bones; and when a dry cough, burning, stinging pain, bloody expectoration, and great debility, indicate danger to the lungs.

Mezerium.—Exostosis, necrosis, or caries, particularly of the shin-bones, the part feels sore, and is aggravated by touch.

Clematis.—Orchitis, excrescences, scabies, tetters discharging bloody matter; pain and irritation, worse at night.

Accessory Means.—All wear and tear of system, such as over-exertion of the mind in business or pleasure, must be avoided. Generous but plain diet, and avoidance of stimulants; comfortably-warm clothing, rest, fresh air, and moderate daily out-of-door exercise, and other good hygienic surroundings are essential. Generally, a warm bath about twice a week, at bed-time is advantageous; also daily cold or tepid sponging, with abundant friction by means of a *Bath-sheet*, on rising. The importance of thorough *cleanliness* in this disease may be inferred from the fact that some of the worst cases of primary disease have been successfully treated by prolonged warm baths. The septic discharge being removed as soon as formed, the sore heals much more rapidly than under ordinary circumstances. Cleanliness is not only valuable curatively, but, practised thoroughly and immediately, is the best *prophylactic*. The abstinence of tobacco and all stimulants should be insisted on.

In those patients who for a long series of years have been addicted to the daily use of stimulants, it is recommended that they be not entirely and suddenly deprived of them, but that they be used twice a day in diminished doses with their meals rather than upon an empty stomach. High livers, on the other hand, should be restricted in the quality and quantity of food, and be brought as soon as possible to a plain, unstimulating but nutritious regimen. The influence of the mind upon the body is nowhere more clearly witnessed than in Syphilitic patients. It is advised, therefore, that the surgeon be frank and candid in regard to the curability of the disease; not buoying him up with hope of a speedy recovery, which is sure to be followed by disappointment and chagrin, nor yet delivering a gloomy prognosis, dooming him to utter and unconsolable despair. There is no disease that produces such a profound impression upon the system, even to the complete wrecking of all functional and organic

action, as *Syphilophobia*. To prevent this, the surgeon should be frank at the outset, and assure the patient that, though the cure may be protracted and that it may even be subject to modified relapses, yet the treatment, if persisted in, will ultimately restore him to health and constitutional vigor.

As a rule, simple lint soaked in tepid or cold *Calendula* water, and renewed every three or four hours, is the only application required for the local sore. But for primary sores and ulcerated glands (*Bubos*), a solution of twenty grains of *Chloral Hydrate* to one drachm of water is exceedingly beneficial. The healing process is regulated and hastened, and auto-inoculation prevented by its use. *Powdered Chlorate of Potash* is another valuable local remedy, especially for removing fœtor and hastening healing. The powder should be sprinkled over the open sores, and covered with a wet compress. As topical applications in sloughy ulcers *Carbolic acid*, and *Ac. nit.* have been already recommended.

SECTION III.

Constitutional Syphilis.—When the poison of syphilis has infected the system it produces certain symptoms, which develop at variable periods, from two weeks to six months or more after the primary disease. The skin and mucous membranes first become affected, afterwards the bones and internal organs. The result is rarely fatal, unless the brain or other vital organ is affected. When once involving the system, it is difficult to entirely eradicate it, and in the earlier periods it may be communicated by means of the saliva, the milk, or even the discharges from secondary sores; later in the disease the poison seems more localized and is less prone to be eliminated from the blood.

Syphilides.—The syphilitic eruptions on the skin, correspond quite closely to the ordinary cutaneous diseases. They are all characterized by a *dull, copper-color areola*; are grouped together, and possess a circular shape; *do not itch*, and leave behind a *brownish stain* or *discoloration* which remain sometime after their complete cure.

Mr. Keys gives ten varieties of eruptions named in accordance with the prominent lesion which characterizes them, viz.:

1. The erythematous syphilide (roseola).
2. Pustular syphilide.
3. Papular syphilide.
4. Vesicular syphilide.
5. Pigmentary syphilide.
6. Squamous syphilide.
7. Tubercular syphilide.

These various forms of the syphilides, owing their origin to the same poisonous contamination are to be treated very much in the same manner; so also will the *mucous tubercles* which occur near the orifices of the mucous canals, especially where the parts are bathed in perspiration, and where irritation is kept up by more or less movement. They form small, soft, flattened tumors which secrete a thin offensive discharge.

Syphilitic Ulcerations.—The mucous membrane of the pharynx is subject to a peculiar foul, excavated ulcer, with ragged edges and covered with a grayish, yellow slough. The inside of the mouth, lips, tongue and even the larynx are liable to be affected by syphilitic ulcerations. Ulcers upon the legs beginning as small gummy tumors, soften, break and form deep ulcers, characterized by its circular form, its clean cut edges, irregular base and unhealthy discharge. They occur generally about the knee joint.

Syphilitic Osteitis.—The bones most frequently affected in constitutional syphilis are the tibia, clavicle, ulna and bones of the skull. It may begin either in the periosteum, or in the bone itself as a slow inflammation. The affected part is exquisitely tender, with great pain, *aggravated at night*.

Syphilitic Nodes.—By degrees an oval tumor is developed, (a node) which at first feels doughy, but afterwards becomes distinctly fluctuating. If left alone it gradually involves the skin and bursts, exposing the ulcerated bone beneath. If situated on the skull, it may produce meningitis and death, or it may involve the brain, by destroying the inner table of the skull, the brain protruding through the opening made, with the serious results that usually follow this condition. Syphilis of mucous membranes

usually occur late in the disease, but may take place during all its stages. They appear in the mouth, throat and nose. 1st. As erythematous patches with erosions and superficial ulcers. 2d As mucous patches which appear late. 3d. Scaly patches. 4th. Gummatus ulcers which also come on late in the disease.

Treatment.—The treatment of all constitutional contaminations by syphilis is referred to the complete eradication, if possible, of the primary source of the mischief, are those mentioned on page 98, and the same general directions as to diet, hygiene, etc., etc., must be thoroughly followed.

Constitutional Remedies.—For the constitutional effects of syphilis the following will be found to answer almost every conceivable condition: *Ars.*, *Bell.*, *Berb. cul.*, *Cinnab.*, *Carbo an.*, *China*, *Cordal.*, *Hepar*, *Hecla l.*, *Hydrast.*, *Kali bi.*, *Iod.*, *Merc. cor.*, *jod. et sol.*, *Mez.*, *Nit. ac.*, *Phos. ac.*, *Phytol.*, *Sepia*, *Sulph.*, *Syphilin.*, *Thuja*.

For the syphilodermata: *Ars.*, *Ars. jod.*, *Aur.*, *Nit. ac.*, *Graph.*, *Hepar*, *Kali bi.*, *Kreas.*, *Phytol.*, *Merc. jod. et cor.*, *Rumex.*, *Lach.*, *Lyc.*, *Syphilin*, *Tart. emet.*

For syphilitic periostitis, nodes and ostitis: *Asa.*, *Ars.*, *Aur.*, *Ac. fluor.*, *Calc. jod.*, *Hecla la.*, *Kali jod.*, *Merc. cor. jod. et sol.*, *Mez.*, *Nit. ac.*, *Sil.*, *Staph.*, *Still.*, *Syphilin*.

For syphilitic iritis: *Ars. jod.*, *Atrop.*, *Bell.*, *Cinnab.*, *Colch.*, *Kali jod.*, *Merc. cor. jod. et sol.*, *Nitric ac.*, *Spig.*, *Syphilin*.

For syphilitic laryngitis: *Ars. jod.*, *Hepar*, *Kali jod. et Iod.*, *Syphilin*.

For gummatus lessons: *Ars. jod.*, *Iod.*, *Calc. jod.*, *Merc. jod.*, *Syphilin*, *Sil.*

Locul Treatment.—The local treatment should be simple and non-irritating to the external manifestations. *Hydrast.*, and *Merc. sol.*, *Calend.*, *Carbol. acid.*, and *soda bi borate* lotions have in my hands done effective service.

For gangrenous ulcerations: *Ars.*, *Lach.*, *Ac. carbol.* See special indications, page 99.

Infantile Syphilis.—If either of the parents are syphilitic, the infant may inherit the disease. If the father is contaminated he may transmit the disease to the fœtus directly, at the time of conception, and the mother may be infected through her

offspring; or he may communicate it to the mother and she may infect the child; or if the mother alone is syphilitic, the fœtus may become affected during intra-uterine life, through the blood of the mother. Under such circumstances, the fœtus is apt to die about the fourth month, which ends in miscarriage. Repeated miscarriages, without some overact, at once suggests syphilitic contamination. Under more favorable auspices, the child may be either born alive, thin and shriveled, with a prematurely old expression, a hoarse voice, a snuffling breathing, nasal discharge, and perhaps covered with a scaly eruption; or it may be born apparently healthy, and the syphilitic symptoms develop a month or two afterwards.

Treatment.—The infant should be removed from the breast and be brought up by hand, that it may not imbibe further poison from its mother, or infect a hired nurse. This having been done, either of the following remedies may be employed in accordance with their pathogenesis, and the characters of the case: *Fer. jod.*, *Calc. carb.* and *jod.*, *Hepar*, *Kali jod.*, *Merc. jod.*, *Mez.*, *Lach.*, *Nit. ac.*, *Phytol.*, *Sang.* and *Thuja*. The utmost importance should be given to those general hygienic and dietetic principles that are so imperatively demanded in all cases of blood poison and otherwise depraved systems.

SECTION IV.

Spermatorrhœa, or seminal flux, is chiefly met with in young men, usually from the ages of 18 to 30 years, and is commonly the consequence of that terrible vice, which practiced in solitude emasculates the body, enfeebles the mind, and degrades the moral status of the mind to a condition of absolute loathing, and disgust of self. The generative organs seem to be impressed with a dual mixture of irritability and debility; the testes are excited into erection by the simplest causes; a look, a thought, the gentle motion of a carriage, or the effort at stool, will pro-

Once a feeble ejaculatory effort, a few drops passing the urethra. From two to four emissions during the week, or oftener in the more advanced stages mark the debility of the organs, and the irritability that invests them. In a short time, the physical and mental powers suffer; the face is pallid, sallow and anæmic; there is ringing in the ears, dyspepsia and emaciation; the features are drawn; expression is listless; eyes lifeless; spirits depressed to the very verge of despondency and despair. Coitus is impracticable as the gush of semen takes place either before erection occurs or without its occurrence, the most melancholy forebodings ensue and the patient is dragged down to the very depths of degradation and moral discomfort.

Causes.—Self abuse; morbid conditions of the urethra; irritability of bladder; constipation; rectal irritation; ascarides; hæmorrhoids; prolapsus ani; elongation of prepuce; frequent excitations of the passions without natural gratification; sexual excesses; excitation of the sexual organs from novel reading, etc.

Treatment.—The curative treatment consists in the use of those agents which, while they diminish irritability, invigorate and strengthen the genito-urinary organs. Happily for humanity homœopathy offers a rich materia medica for the various conditions and varieties of this truly pitiable disorder, among the most valued of which are the following: *Anac.*, *Aur.*, *Agnus c.*, *Bell.*, *China*, *Camph.*, *Bufo.*, *Brom.*, *Calc.*, *Canth.*, *Eryng. ag.*, *Cobalt*, *Gels.*, *Digit.*, *Ferr. brom.*, *Phos.*, *Phos. ac.*, *Plat.*, *Puls.*, *Iris ver.*, *Nuxvom.*, *Kali brom.*, *Nuphar. lutea*, *Selen.*, *Staph.*, *Sepia*, *Ustilago.*, *Zinc ox.*, *Sulph.* See special indications at the end of this chapter.

Local Measures are the cold salt-water sitz bath, every night and morning, or the cold shower bath, light bed covering, and a hard mattress, light suppers, entire absence from all highly seasoned food, wines, liquors, tobacco, etc.; properly directed exercise, ventilation, a well regulated diet, electricity, the pleasant occupation of the mind, the avoidance of stimulants, and of all enervating habits, and above all the cheering effects of pleasant society, pursuits and amusements. A suspensory should be worn constantly, and a knotted towel, the knot to the spine, should be tied around the body, so that the patient will be

awakened by the pressure whenever he lies over upon his back. The wet girdle at nights, the spermatic ring, and electricity are valuable expedients.

Impotence is often met with in persons ordinarily healthy, and in some cases where great muscular power exists, and arises from either a natural deficiency in individual organization or from exhaustion of the nervous power by habitual mental or physical exertion; by excessive sexual indulgence, over exercise, or study, carried to an intemperate degree.

Asperma is very rare except in cases of atrophy, absence of the testes or organic degeneration of their structure. It has been observed that each individual possesses a certain given amount of procreative power, which being early exhausted or habitually wasted by frequent intercourse, can be restored partially only by such attenuated remedies as have a decided penchant for these organs. Among the remedies are: *Agnus. cast.*, *Anacar.*, *Berb.*, *Bufo*, *Calad.*, *Con.*, *Gels.*, *Phos. ac.*, *Papay.*, *Selen.*, *Slaph.*, *Ustilago*. Other general and local treatment, as recommended under spermatorrhœa, should be entertained during treatment.

Marriage.—This important question, so frequently referred to the practitioner, as to its curative value, is hereby presented for future guidance.

1st. If spermatorrhœa exist in the *spinal* or *cerebral* form, marriage is injurious.

2d. If the disease exists in its general form mainly, and the act can be consummated without injurious consequences to the patient, although imperfectly, marriage may be advised.

3d. As a rule, marriage should not be recommended as a curative remedy.

Special Indications for Spermatorrhœa.—**Merc. v.**—Impotence from abuse of sexual organs.

Ferr. met.—Impotence from abuse of sexual organs in weak people; great debility following the discharge, and nocturnal emissions.

Stilling. and Nux v.—Caused by masturbation or abuse of alcoholic liquors, coffee, sedentary habits and mental exertion.

Plumbum.—With a relaxed penis, after drinking wine, with lassitude next morning; violent painful erections from the least excitation.

Gelsem.—From relaxation, weakness and irritability of the seminal vesicles.

Bell.—From weakness of the seminal vesicles, with sweating of the sexual organs, and pressing and lacerating pains in the parts; indifference to voluptuous excitement; sexual desire extinguished; sadness with increased sexual desire.

Selen.—Itching and coldness of the genitals; nocturnal emissions, with amorous dreams; the semen escapes with every stool, and after urinating; dribbles away unperceived during sleep; is very thin, and odorless; he is hopelessly distressed.

Ustil. m.—With erotic amorous dreams.

Ferr. brom.—Great debility, anæmia and depression of spirits.

Canth.—With great impotence and inability to retain the urine.

Nuph. lut.—With painless morning diarrhœa.

Sep.—*Mental symptoms*; after coitus, anxious and restless all day; discouraged and easily frightened in the evening; vertigo.

Ant. cr.—After lascivious fancies, less sexual desire.

Phos.—Cerebral excitement, with flushed face and glistening eyes; satyriasis.

Stram.—Depression of spirits, with spermatorrhœa; great delirium; sexual excitement during the night; during mental derangement; sexual irritation.

Diosc. vill.—Depression of spirits; great weakness of the knees after pollution, without erection; sensation or dreams.

Nat. Carb.—Dissatisfied and vexatious; out of humor after painful emission.

Nat. mur.—During lascivious thoughts, without erection; profuse discharge of prostatic fluid.

Lyc.—Exciting imagination even causes no erection, although there is sexual inclination.

Digit.—Frequent lascivious fancies, day and night.

Ham. virg.—Gloomy and depressed mood after emissions, with amorous dreams.

Ustil. m.—Great despondency and irritability of the mind, with great despondency; great prostration and great pain in the lumbar region the day after an emission, with sexual dreams; erotic ideas, fancies, and amorous, with seminal emissions, and spermatorrhœa.

Thuja occ.—Heaviness and ill-humor after emissions.

Selen.—Hopelessly distressed, semen escapes with every stool, and after urinating.

Con. m.—Hypochondriasis from denial of sexual intercourse; among single men; sad, anxious, low spirited; suppression of sexual desire.

Graph.—Indifference, low spirits, and dullness of mind after onanism.

Ign.—Lascivious and amorous fancies, with exalted sexual desire; weakness of the parts, and impotence, and sexual fancies and dreams.

M. re. v.—Excitement with painful nocturnal erections, with tension seemingly caused by flatulence.

Ambr. gr.—Amorous imaginations, without irritation of the sexual organs.

Silicea.—Thoughts with sexual desire very much excited day and night, with frequent erections, and drawn up testicles; ill-humor and irritability after coitus.

Calc. seg.—Lewd thoughts without erections.

Calc. c.—Nervous relaxation; discontent, and irascibility, with trembling and great weakness in the legs, principally in the knees; ill-humor and dissatisfaction.

Graph.—Thoughts run on sexual subjects, tormenting him so that he fears insanity.

Syphilitic Otitis and Periostitis.—The bones and also their coverings may be involved in constitutional syphilis, also the ligaments and joints, attended by pain, fever, nocturnal exacerbations. Gummy deposits take place in the capsule of the joints in a diffused form, producing thickening, weakness of the joints and finally loss of motion. Osteocopic pains of a splitting, boring, bone-breaking character, coming on worse at night, with great regularity and terrible fierceness, and ceasing toward morning. The warmth of the bed aggravates them, and sometimes the weight of the bed-clothes is intolerable, produced by a febrile exacerbation coming on toward evening which dilates the peripheral blood vessels.

Syphilitic Node.—This is an inflammatory periostitis, generally terminating in the new formation of bone. The subperiosteal tissues become congested and soft, round, and spindle cells are formed, which proliferate and increase till they separate the periosteum from the bone, giving rise to an oval lump or tumor which shades off into the surrounding tissues, and which may remain for years. The bones most involved are the superficial flat bones. The node, after remaining soft for a considerable

time, becomes firmer, and either disappears under treatment by absorption, or disintegrates leaving behind an ulcer, the floor of which is bone denuded of its periosteum. The bone becomes dark-colored from exposure; in a while it separates, comes away, after which the ulcer heals.

Alopecia frequently occurs as one of the conditions of the syphilitic contagion. The roots of the hair are principally involved; large quantities of scales or scurfs form about them and destroy the capillary radices; the hair as a consequence falls out leaving in some instances the scalp perfectly bare. The eyebrows are also affected in the same way, and the hair of the breast and limbs sometimes becomes involved. Tertiary syphilitic lesions so called, whether the effect of mercury or contagion, are seldom seen at present, and I believe are more frequently the result of poisonous doses of the drug, than the sequelæ of the syphilitic virus. A careful investigation will show that the ravages of syphilis as described in the works of allopathic syphilographers, two or three decades ago, as compared with those of the present day, hold an inverse ratio to the poisonous quantities of mercury given in its treatment. Treatment, see special indications, page 99.

Onychia Syphilitica consists of inflammation of the matrix of the nail, and consequent loss or disfigurement of the nail itself, and is an occasional attendant upon both secondary and tertiary syphilis. Its further consideration will be referred to the treatment of constitutional syphilis.

Syphilitic Iritis.—The primary seat of the disease is in the iris, but other tissues of the eye may be implicated. Generally but one eye is involved, which presents most of the symptoms of common iritis. At the beginning of the disease, says Helmholtz, the iris becomes duller, with a grayish appearance, the radii being more or less effaced; the small circle of this membrane is livid or copper-colored; its tissue tumefies and forms an elevated ring composed of thick downy flakes. The pupil is more or less contracted, and assumes an irregular shape; the cornea is somewhat dimmed, and on its inner surface may be seen small fasciculi of congested vessels; the tunica albuginea is of a rose color, which at its juncture with the cornea is converted into a dark-red hue,

called the *dyscrasia circle*. As the disease advances the iris becomes more discolored, its surface is covered with exudation, its free margin is tumefied and upon its anterior surface there are elevations of a grayish or yellow tinge. The pupil at length becomes perfectly immovable; pedunculated excrescences called *condylomata of the iris*, spring from the membrane, and adhesion takes place between the iris and the lenticular capsule. At the bottom of the anterior chamber, pus mixed with blood can be seen. There is at this time violent constrictive boring pains in the supra-orbital region of the affected side which radiate towards the head; they are *increased towards evening, most violent at midnight, and abate towards morning*, the peculiar characteristics of syphilitic pains. Sight is more or less effected by reason of the plastic exudations formed in the pupillary opening. Photophobia is rarely present in this disease.

Treatment.—The object of the surgeon in the treatment of this formidable disease is to allay inflammatory action, eliminate the syphilitic poison, and to arrest further extension of the inflammatory process. To accomplish this the pupil must be artificially dilated; this can be accomplished by dropping into the eye, three or four times a day, a few drops of a solution of *Atropine*.* This dilates the pupil and rests the inflamed muscular fibres.

Rhus tox. is useful in the primary stage accompanied with profuse lachrymation.

Petroleum should be given when there is redness in the eyes, with pain, heat and throbbing in the occiput.

Cinnabar, when pain affects the supra-orbital region; when *abscess* forms in the iris, *Hepar.*, *Merc. Sol.* and *Sulph.*

Chancrous ulceration when it attacks the corona, *Ars.*, and *Calc.*, are remedies of value.

Mercurial toxæmia is benefited by *Nit. ac.*, *Hepar.*, *Mez.*, *Dulc.*, *Kali chlor.* When there is an exudation of lymph, or the inflammation is of a sub-acute character, *Apis.* and *Uolch.* will be found reliable.

Syphilitic ulceration of the larynx is caused by an extension of the ulceration of the palate. It is characterized by tenderness, great huskiness of voice, suffocating cough and expectoration of

* *Atropine*, grs. iv; distilled water, 1 oz,

sticky, tenacious mucus or bloody matter. There is slight difficulty in swallowing at times, the voice degenerates into a mere whisper and is accompanied with great loss of flesh, etc. Strength and life is often terminated by it.

Treatment.—The medicines which have produced most marked benefits are the *Kali bichrom.*, *Kali jod.*, and *Merc. cor.* Prof. Helmhuth has derived much benefit from *Ars.*, *Iod.*, *Macrot.*, and *Podoph.* A weak solution of *Iodine* thrown into the throat by means of an atomizer is recommended as highly efficacious. Prof. H. uses the solution of *Iodine* of the following strength: ten drops of the first decimal dilution in a gill of water, and applied twice a week. A solution of *Merc. cor.* applied locally by means of a camel's hair pencil, is very beneficial.

PART II.

MORBID GROWTHS OR TUMORS.

CHAPTER I.

GENERAL CHARACTERISTICS OF TUMORS.

Tumors, from *tumeo*, (to swell) is an indefinite term, but is applied to any preter-natural eminence developed in any part of the body. Gross defines it as an "enlargement of a part, structure, or organ, produced by abnormal deposit," either different in character from the healthy tissues or else excessive in its growth. A *carcinoma* differs from every other tissue in the body (neoplasm). A *fatty tumor* is merely excessive growth (homoplasm). They are divided into two great varieties, the *benign* or innocent, and *malignant* or cancerous, with a hybrid class called the *semi-malignant*, not yet thoroughly understood.

Pathology.—Diversity of opinion; late authorities contend that they are due to transformation of tissues; increase or multiplication by division of cells having a previous existence in the part abnormally enlarged. Others assert that these growths result from causes acting through the blood itself; a morbid product is

exuded originating nucleated cells, developing tumors by transformation of the various structures

Origin.—The microscope has indeed furnished accuracy of detail in the appearances that have been presented in the slight and almost imperceptible visual changes seen in the varying stages of the same pathological process; yet it has unquestionably confused the divisions and sub-divisions of these neoplasms, and left us in an interminable doubt and confusion of nomenclature.

As a means of diagnosis (before operation) between innocent and malignant tumors, the microscope has been of little practical benefit. *After* removal it is true their characteristics and histological elements have been more clearly defined. How much more benefit would this instrument confer upon humanity if the opposite condition was true.

All benign tumors result from some derangement in the functions of the *primitive* tissues, occasionally perhaps by some local irritation. Dunglison attributes this growth to some morbid cause operating in certain parts of the body. Schuppel's theory of "giant cells" created a new sensation. Lostoffer's "corpuscles" produced consternation among the syphilographers, and the typical "cancer cell" has opened up a new field of controversy, so that the origin and growth of tumors are in the same state of confusion and perplexity as is that of inflammation at present. The question of *malignancy* is not to be determined histologically, but rather by observation and clinical study. The greatest malignancy and the most positive benignity may be united in the same group. Billroth avers that "two sarcomata of the most similar histological qualities may differ entirely in their course." Holmes divides all tumors into Homologous and Heterologous varieties. The *homologous* are those in which the substance of the tumor has an exact anatomical resemblance to some tissue of the body (benign). The *heterologous*, in which the morbid growth does not present any resemblance to the normal tissues (malignant). The benign as a rule are unattached to the tissues. The malignant glue together and absorb all the natural structures, changing their physical, chemical and vital properties.

The genius of tumors therefore includes, 1st. That they are

composed of a living tissue, either natural or unnatural, and if natural tissue, yet developed in unnatural quantity. 2d. That they grow independently, or in Mr. Paget's words: "They grow with appearance of adherent power, irrespective of the growing or maintenance of the rest of the body, discordant from its normal type and with no seeming purpose. Again, while forming part of the body and borrowing from it the apparatus and materials necessary to its life, the tumor grows, or maintains itself, or degenerates according to peculiar laws."

Sir James Paget's* views closely resemble the opinions laid down by Holmes. Virchow's arrangement of tumors which is undoubtedly the most scientific from the microscopic standpoint, is nevertheless most perplexing and confusing to the mind of the student. There is no question, that in a scientific point of view, the nomenclature of tumors should have reference to their anatomical structure; but this has been found impracticable on account of the varying and multitudinous appearances presented by microscopic study and observation. Billroth doubts the expediency of this classification, and yet he adds, "it is my endeavor not only to gain for pathological histology an independent position and a purely anatomical ground, but also to reinstall surgery, in regard to the diagnosis of tumors, in its full rights, which it had for a time too willingly given up." Muller declares, "that the microscopical and chemical analysis, shall never become the means of clinical diagnosis," While German authors strenuously cling to the system reluctantly adopted by Billroth, the English and American writers continue largely to adhere to the clinical classification. Says Helmuth, "therefore, on account of the uncertainties at present realized, and those which, no doubt, are yet to come, and in view of the great variety of terms here and there introduced by the histologist, we shall attempt to classify tumors in accordance with their clinical characteristics, and to describe their structures histologically, and may hope for a future when the many discrepancies which now overshadow the magnificent classification of Virchow and Billroth, will be removed and a more simple arrangement of these growths, at least for the student and practical surgeon, be arrived at." With the

* Lectures on Surgical Pathology.

views heretofore expressed, I yield a hearty concurrence, and the classification which I shall adopt is that with reference to the nature of the growth and its development: First, the nearer a tumor in its homological characters, coincides with the "perfectly developed" formations of the human system, the nearer it approaches the innocent type; on the other hand, the nearer a tumor coincides with abnormal, embryonic or imperfectly formed structure, the more certain it is to belong to the malignant or semi-malignant variety. The *benign* or *innocent* tumors are assumed to originate in a sort of "error loci" of formation and are homologous or homœomorphous, corresponding with the normal tissues of the body. They are perfectly compatible with a good state of health. They are harmless in their effect upon neighboring tissues. They have an uncertain period of increase, are generally round for a time, may either remain stationary or undergo a process of fatty or earthy degeneration. In their anatomical structures they resemble the normal tissues of the body, are unattended, as a rule, by any marked constitutional disturbance, and when effectually removed, there is no return, either in the same or in any other place. The only exception to this rule being the recurring fibroids.

The *malignant* type of tumor, on the contrary, possesses the following diagnostic marks. They are of constitutional origin; their progress is generally rapid, constant and painful. They are disposed first, to soften, then ulcerate, with a tendency to rapid or slow infiltration and destruction of the surrounding matrix. They enlarge irregularly, assuming a lobulated shape with offshoots extending into the deeper structures. They give off a peculiar fœtor, accompanied with persistent and sometimes fatal hemorrhage. They infiltrate every tissue in their vicinity, are liable to secondary deposits from being absorbed in one part and deposited in another, and they are prone to return after extirpation.

The *semi-malignant* tumors or intermediate class, "include those which possess some, but not all of the vital characteristics of the cancerous growths: as well as those which like the fibre

plastic, resemble cancer in their coarse appearances, though not in real structure; some varieties of fibrous fibro-plastic tumors and cartilaginous tumors, says Druitt, may not only return if removed, but may invade many external organs. Paget describes varieties of this kind of tumors, which not only returned after extirpation, but caused ulceration and sloughing, involving neighboring structures and finally terminated in death.

Tumors occur in every part of the body; as a rule the *benign* growths affect the skin, cellulo-adipose structures, nose, ovary and uterus, while the malignant attack most frequently the glandular organs.

Tumors vary in *form, color, volume, consistence, and mobility*. In form they assume almost every shape, are smooth, uneven, round, lobular, conical, and spheroidal. Those that involve the lymphatics are generally uneven and nodular; the fatty and encysted are usually smooth and spheroidal. In color, they vary in accordance with the number of vessels and inflammatory action in the growth; thus, the fatty tumors are yellowish; fibrous are whitish; the naevi are purple, and the cartilaginous are white and glistening. In volume, they range from a millet seed to a bulk equal to the weight of the patient's body. In consistence they are soft, hard, or semi-solid; the scirrhus and fibroid are hard and stony; the cystic are soft and the fatty tumor has a semi-solid "feel" midway between the cystic and fibroid. The mobility of a tumor depends both on its character and its situation in the body. The fatty tumors are freely movable; the exostosis are immovable, hard and firm; and as a general rule, the benign growths are movable upon the tissues, while the malignant are firm, inelastic and immovable.

Situation.—Every part of the body is subject to these growths. The *malignant* attacks glands, connective tissue, the ends of long bones, and the viscera. The *benign* affects the skin, cellular and adipose tissues, the nose, uterus, ovaries, the liver, testicle and bones. They vary in size from a pin's head to the largest dimensions.

GENERAL DIFFERENTIATION.

RELATION TO SURROUNDING STRUCTURES.

BENIGN TUMORS.

Have neither hereditary nor constitutional dyscrasia.

Are not closely connected to the adjacent structures.

Tumors grow slowly as a rule.

Are frequently multiple; advance equally, and affect the *same type* of tissue.

No tendency to ulceration.

Tumors are stationary for some time, when developed they grow slowly.

Rarely accompanied by offensive discharges.

The structures adjoining are either healthy or indurated by the inflammatory process.

Absence of hemorrhage.

The ulcer heals readily when irritation ceases, or if ulceration is extensive the tumor may be destroyed.

The growth is homologous and homorphous, and like other natural tissues of the body.

No constitutional effects whatever are developed in any of its stages; when reproduced, is in kind.

MALIGNANT TUMORS.

Have both hereditary and constitutional predisposition.

Are infiltrated into and embody the surrounding structures in their own substance.

Tumors grow rapidly when fully developed.

Are solitary and only multiply by infection, and affect different types of tissue and localities.

Marked tendency to ulceration.

Grow fast when fully developed, and extend in all directions.

Very offensive, ichorous or bloody discharges.

The structures adjoining are changed from their normal condition and are infiltrated.

Liable to profuse bleeding.

The ulcer has no tendency to heal and no reparative process is manifest; the disease increases with the ulceration.

The growth is heterologous and heteromorphous and entirely differ from natural tissues.

The constitution shows evidence of contamination in advanced stages; scirrhus grows slowly; is hard; skin puckered and ulceration, and hemorrhage late; is seldom reproduced in variety, but always in kind.

Classification of these tumors differ. Some authors arrange them *histologically* from their intimate and minute anatomical structure; others *clinically* from history and terminations. American pathologists adhere generally to the latter. I shall adhere to the classification of Mr. Bennett, of Edinburgh, who based his arrangement on the compound texture of tumors, aided by their resemblance to pathological conditions. There are three grand divisions: *Benign, malignant, and semi-malignant*, or recurrent tumors.

The Varieties are thus tabulated: *Cystoma, Adenoma, Lipoma, Angionoma, Osteoma, Enchondroma, Fibroma, Epithelioma, and Carcinoma.*

They are also sub-divided¹ according to their sensible properties, as, *Hygroma* (watery), *Melanoma* (black), *Chloroma* (green),

Hæmatoma (bloody), *Colloma* (glue), *Steatoma* (lard), *Atheroma* (gruel), *Meliceroma* (honey), *Cholesteatoma* (cholesterin), *Sarcoma* (flesh), *Neuroma* (nerve), *Encephaloma* (brain), *Myeloma* (marrow), *Sherrhoma* (marble).

Cystoma is a simple tumor, and consists of a capsule of condensed areolar tissue, containing different kinds of fluid or semi-



fluid matter. The accumulation of secretion within a sac or cyst is gradual, with dilatation and hypertrophy of its walls. There are three varieties. 1st. Encysted tumors of skin, mucous membrane, and sub-cellular tissue, produced by closure of the numerous follicles or ob-

struction of the excretory ducts, viz: atheromatous tumors. 2d. Those formed by closure and dilatation of the ducts of excretory glands or organs, as *ramula*, and cystic tumors of the breast from occlusion of the lacteal ducts. 3d. By retention or modification of the secretion in cysts without excretory ducts as the synovial bursæ. Paget divides them into *simple* or *barren*, *compound* or *proliferous*, with occlusion of natural ducts. Holmes, in his system of surgery, adopts very nearly the classification of Paget, viz.:

1st. The *simple* or barren cysts; the serous and hygromas; synovial mucous; sanguineous; oily; colloid and seminal.

2d. The *compound* or proliferous; complex cystoid, with inter-cystic growths; entaneous or dentigerous.

Billroth sub-divides them according to the contents of the sac, thus, cysts with *serous* fluid, cysts with *mucous* contents, and cysts with a *pultaceous* or fatty matter. In the latter variety are contained pieces of bone, teeth, hair and such like materials. They are found in the ovary.

Cystomas are single or multiple; of irregular growth; are distinguished from abscess by their history, slow growth, elasticity, mobility, their smooth oval character, absence of pain, movable-

ness, healthy integument. They are met with about the face, scalp and other parts, and vary from the size of a pea to that of an orange.

Hydatids are another form of this tumor, so are polypoid tumors, and the acephalocyst, which are found in the liver, ovary, uterus, and are supposed to be the product of a parasite which is found within the cyst.

Treatment.—The remedies frequently curative of this condition are: *Apis.*, *Ars.*, *Aru.*, *Calc.*, *Graph.*, *Kali bi.*, *Lach.*, *Rhus.*, *Phos.*, *Lyc.*, *Merc.*, *Sil.*, *Staph.*, *Sepia.*, *Sulph.*, and *Teucrium*; the appropriate remedy to be selected according to its pathogenesis. The surgical means are: *Extirpation*, *Electrolysis*, *Sub-cutaneous puncture*, *Evacuation*, *Injection* and the *seton*. See special indications at the end of this chapter.

Cystis Synovialis, Hygromata, or Bursal tumors. This includes enlargements of both the natural and accidental bursæ in various parts of the body, and from the frequency with which they occur, and their liability to be confounded with other tumors, makes it necessary to give some anatomical outlines in reference to their position in the system. Superficial bursæ are sometimes seen upon the symphysis of the lower jaw, also *under* the angle of the jaw. "I have met with, says Hamilton, a bursal tumor formed within the synovial sheath which covers the tendon of the digastricus. A natural bursa exists in the thyro-hyoid ligament and an accidental one may form in front of the thyroid cartilage. An accidental bursa has been seen over the acromial process. A natural bursa exists between the acromion process and coraco-acromionial ligament on the one hand, and the capsule of the shoulder joint—small and sometimes wanting; between the under surface of the sub-scapularis and the neck of the scapula, gradually communicating with the joint; between the same tendon and the capsule, small and frequently communicating with the joint; between the conjoined tendon of the coraco-brachialis and short head of the biceps near its origin and the capsule of the joint, not always present; within the sheath of the long head of the biceps, between the tendon of the teres major and the upper margin of the tendon of the latissimus dorsi and the humerus; between the tendon of the latissimus dorsi and the

humerus—small. The bursa between the tendon of the lat. dorsi and the inferior angle of the scapula is quite often found enlarged by increased synovial secretion. Velpeau speaks of this bursa as the frequent seat of hæmatic tumors. There is a bursa between the tendinous insertion of the biceps and tubercle of the radius; one also between the olecranon process and the triceps; and one *over* the olecranon process called the miner's elbow. The various bursal sacs in the neighborhood of the wrists are often productive of disease and enlargement. They are sometimes met with over the sternum in cabinet makers as the result of pressure by instruments. They are also numerous in the region of the hip joint; over the tuberosity of the ischium, over the ant. sup. spinous process of the ilium, and also upon the coccyx; beneath the gluteus maximus and the femur; between the gluteus medius and the great trochanter; between the obturator externus and ischium; between the obturator internus, gemini and scapular ligament; beneath the conjoined origin of the semi-tendinosus and the long head of the biceps, and beneath the origin of the semi-membranosus; between the conjoined tendons of the psoas magnus and iliacus internus and the capsule of the hip joint; in the lower portion of the thigh, under the expanded tendon of the quadriceps; over the trochanter major; under the quadriceps; between the biceps flexor femoris and the head of the fibula; under the popliteus; over the patella; under the ligamentum patellæ; over the tubercle of the tibia and over either condyle of the femur; between the tendo achillis and the os calcis and under the os calcis." All these bursæ are liable to disease and subsequent enlargement, and were they not thus anatomically described, might be mistaken for other and more serious disorders.

Treatment.—The medical treatment consists in the use of *Arnica* when the trouble arises from bruises or injuries.

Aconitum.—Much *febrile* disturbance.

Belladonna.—Considerable heat, *redness and swelling* of the part, with *lancinating pains*.

Rhus.—Pain worse when sitting, and when *warm* in bed.

Ledum.—Pain, etc., with *chilliness*.

Iodium.—Chronic Bursitis in persons subject to *glandular enlargements*.

Kali Hyd.—With *rheumatic* complications. *Graph.* (chronic cases with redness); *Agar.* (itching); *Hep. s.*, or *Sil.* (tendency to suppuration); *Bry.* shooting pains. A lotion of *Acon.*, *Bell.*, *Bry.*, *Led. pal.*, *Rhus. Iod.*, *Agar.*, or *Arn.*, should be used when the same remedy is being administered internally.

Sticta pul., introduced to the profession by Dr. Price, of Baltimore, is said to have produced most excellent results. Dr. Hasbronek, of Brooklyn, endorses its sphere of action, and highly recommends its use in bursal affections. Dr. Price testifies to its efficiency in twenty-five cases of acute bursitis. He employs the first dec. dilution in water every two hours and remarks that in *chronic bursitis* he has never found any beneficial action from its use. I can testify to the curative action of *Kali hyd.*, in almost every case I have used it in this painful affection, whether in acute or the chronic variety. I employ this remedy in solution. 5 or 10 grains in $\frac{1}{2}$ glass of water, and give one tablespoonful four or five times a day.

Surgical Treatment.—If the above remedies are unsuccessful, a stout thread of silk should be passed through the centre of the tumor, the effect of which, in a few days, is to convert the bursa into an abscess, which, when mature, should be opened. The thread should be removed from the wound after the exudation of pus from the orifices made by the needle. Aspiration may be successfully employed in certain cases, and the contained fluid drawn out. Opening the bursa with the knife, and painting the inside with *Iodium*, is a more satisfactory operation. When the tumor is solid, excision is the most effectual method, and one accompanied with little risk.

Ganglias.—Weeping sinews. This is a variety of bursa which consists of a serous or synovial capsule, usually of small size, and situated between the layers of a sheath enclosing a tendon, and sometimes communicating by a small orifice with the interior of the tendinous sheath. Its most frequent seat is upon the back or front of the wrist, or upon the top of the foot, and are supposed to originate from sprains. They are generally small, oval or round, firm but elastic, colorless growths, varying in size from a pea to a pullet's egg, and are observed to move with the tendon to which they are attached. Their contents are usually of a

light-colored, glairy fluid, resembling the white of an egg, with rather more consistence than is usually found in other synovial or bursal sacs.

Treatment.—These bursæ sometimes disappear spontaneously, but are disposed to return sooner or later. Firm and continuous pressure will often effect a cure; in other cases a more speedy dispersion of the swelling may be effected by a sub-cutaneous incision of the sac, and pressure applied afterwards to prevent the refilling of the capsule. The method generally preferred is, to have the patient bend the wrist, in order to contract the tissues, and rupture the sac by a smart blow made by the back of a book or a flat ruler, after which they seldom recur. Free incisions and injections thrown into the sac have been recommended by some surgeons, but I think the simple processes are better, as they are not apt to be followed by violent inflammation and suppuration, a result to be dreaded by the operator. See special indications at the end of the chapter.

Proliferous Cysts are those which are capable either of multiplying themselves, or of generating new growths. “Those cysts which occupy venous or arterial radicals, or those which have their seat in a large number of Graafian vesicles are termed barren, because they have no capacity of either reproduction or self-multiplication. Proliferous cysts in their origin and early history, may differ in no appreciable degree from barren cysts, nor is it possible to determine upon what condition of the germ or cell structure the new genesis depends; it may develop from the inner or outer wall of the original cyst, or between its laminae, and may be then classed according to location, endogenous, exogenous or intra-parietal. In form and intimate structure they present several varieties; some are analogous to, or exact counterparts of the original cyst. Thus, in the ovarian cyst, “the endogenous or intra-parietal growths, may resemble in form, structure and contents the parent cyst; in other cases they exist as clusters of small, thin-walled, pedunculated vesicles. The neoplasms may be cystic, vascular, or papilliform, gelatinous, colloid, fibrous or cartilaginous, osseous or cretaceous. In short, they may assume the widest range of histological and of clinical

character. They are at one time benign, again recurrent, and finally malignant."—*Hamilton*.

In the proliferous variety of ovarian cysts, there are two kinds of endogenous cystic growths; the *spheroidal* have broad bases, and are in structure similar to the parent cysts; while the *slender* have thin walls, are attached by pedicles and occur in clusters. Intermediary and mixed forms also occur, in which the characteristics of each class are present to a greater or less degree.

Cysto-Sarcoma, a variety of the compound or proliferous cyst, is a peculiar growth developed in different or heterologous structures and occurs more frequently in females than males. It has been the subject of much controversy among pathologists and various opinions have been expressed as to its nature and characteristics. It invades by preference the mammary gland, but is sometimes seen in bone, within the medullary canal and in the compact structure of bone. Johannes Muller has included in the growths *three* subdivisions only, although Paget, Brodie, Hawkins and others, have made many more, which only confuse the mind of the student, without producing any corresponding benefit. First, the *cysto-sarcoma simplex* of Muller, is that variety "in which the cradle mass does not intrude at all into the cavity of the cyst and is of the rarest occurrence. Second, the *cysto-sarcoma proliferum* is engendered by the development, within the terminal excrescence bulbs of the acinus-like cavities, into filial cysts, and the intergrowing of the cradle mass is here repeated." Third, "the *cysto-sarcoma phyllodes* with its amply developed warty canliflower and foliated or cock's-comb-like ingrowths, has nothing to mark it beyond the size and development of the excrescences." The cyst membrane is here no longer demonstrable, having coalesced with the cradled mass of the cyst." "It has been stated that the dendritic intrusions into the cyst may occur at one point only of the cyst, at several points, or lastly at all points simultaneously. In the last case they converge, coalesce, and eventually fill the entire cyst, determining thus its aggregate lobular structure."

A very interesting case of cysto-sarcoma, of twenty years' duration, in a lady of sixty-eight years of age, and of enormous growth, is mentioned by Prof. Helmuth, one of the interesting

points of which is, that after visiting the medical savans of Europe, and undergoing treatment from many distinguished physicians and surgeons in this country, without any decided relief, he gave internally *Kali brom.*, with most marked benefit. the enormous growth crumbling away in masses under the use of the remedy. He began the treatment with two grains, three times daily for two weeks, and gradually lessening the dose, "the tumor shrunk perceptibly;" after several months she finally succumbed.

Cysts in Bone.—This variety of cysts is found in the osseous system, in the diploe and cancellated structure. They attain a considerable size, and are found most frequently in the upper or lower jaw, or in the lower end of the femur.

Sanguinious Cysts are closely allied to the serous, and by Bennett and other writers are designated as "hæmatoma." Paget describes them as originating in three different ways, "either by hemorrhage into a previously existing serous cyst, by partial obliteration and transformation of a nævus, or by the occlusion and dilatation of a vein." They are found most frequently in the neck, and contain a bloody fluid. The cyst wall varies in thickness and density according to locality. It is membranous in sub-cutaneous cysts, the membrane presenting a columnar or fasciculated appearance, due to its unequal rupture. Helmholtz mentions a *Thyroid cyst*, in an infant, directly over the thyroid cartilage and fluctuating, which he cured "by pulling it forward and passing beneath it small needles crossed at right angles and strangulating the mass with waxed silk passed behind them.

Congenital Cutaneous Cysts are sometimes seen upon the foreheads of infants soon after birth. They are round, oval or flat, and contain an oily fluid; the cyst wall is composed of "membranous connective tissue, lined with tessellated epithelium."

Mucous Cysts comprise all cysts originating in mucous tissue; they generally occur in females, are developed in the sexual organs, usually grow singly, sometimes multiple, and are generally oval in shape. The cyst wall varies in thickness and density, sometimes it is thin and membranous; at others it is thick and inelastic; the contents of the sac also varies, often it is an

almost transparent color, while at other times it assumes a dark, turbid appearance, nearly resembling ink in color. Mr. Hawkins relates a case of the kind wherein the contents resembled liquid fæces.

Colloid Cysts are thus named from the contents of the sac, which resemble gelatine or glue; these are of various colors, ranging from yellow to almost black, and of different consistencies "between pellucidity and thickest turbidness." They are often found in the thyroid gland, in the ovaries and prostate. A colloid or gelatiniform bearing cyst is occasionally found in many hypertrophic tumors, and especially in the mammary gland.

Treatment.—The treatment of cystic tumors has been quite successful by the practitioners of the homœopathic school. Prof. Helmuth has obtained much benefit from the internal use of *Kali brom.*, given in two-grain doses three times a day. Prof. Dunbar recommends *Calc. carb.* for encysted tumors of the head and neck, with fluid contents. I have seen marked benefit from the internal use of *Baryta carb.*, *Kali hyd.*, and *Silicea* in these tumors. Dr. Ruddock extols the use of *Baryta*, *Sil.*, *Kali hyd.*, *Lyc.* and *Sulph.* Dr. Gilchrist strongly recommends *Apis.*, *Arn.*, *Bell.*, *Col.*, *Graph.*, *Plat.*, *Rhod.*, *Rhus*, *Sepia.*, *Sil.* and *Sulph.* as productive of excellent results.

Among the surgical means may be recommended, *electrolysis*, the *seton*, *injections* for the purpose of producing adhesion, *enucleation*, followed by an enucleating paste composed of equal parts of *Hydrastis* root, *Chloride of zinc*, flour and water, and *complete extirpation*, which is of all measures the most prompt, reliable and successful.

Adenoma, or hypertrophy of gland structure, is commonly associated with change of texture; the gland enlarges, usually without pain and presents a tumor circumscribed, smooth, or lobulated in its outline; *movable*, *firm*, often elastic to the touch, and incased in a distinct capsule; occasionally it is callous, at other times there is considerable tenderness on pressure. They occur in different parts of the body; the part in which they grow determines their name, as labial, mammary, etc.; they vary in size, and are often attributed to chronic inflammation. By interfering with the action of adjacent organs or parts they frequently cause great

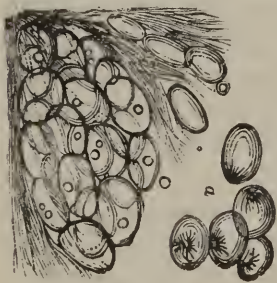
inconvenience. *A faulty condition of the system* usually accompanies these growths; they are most frequent in adult life.

Histological elements—The histological elements are, true glandular structure, with fibrous septa, concrete in shape, lobular in form, with glandular epithelium in each lobe. When occurring in the breast; they are affected by the menstrual period. At times they are associated with malignant neoplasms. The septa are concentric in form and are composed of fibrous tissue, and sometimes they radiate from the center to the circumference.

Treatment.—The remedies that are appropriate to the cure of these growths are *Arn.*, *Ars. Aur.*, *Bell.*, *Bry.*, *Brom.*, *Baryta*, *Carb. an.*, *Calc. carb. et. jod.*, *Con.*, *Graph.*, *Lyc.*, *Iod.*, *Lap. alb.*, *Merc. jod.*, *Phos.*, *Plat.*, *Phy.*, *Rhus*, *Puls.*, *Sil.*, *Zinc.*, and *Sulph.*

The *surgical* means are excision, removing the capsule and enucleating the tumor, compression, enucleation, electrolysis, and local applications of *Iodine*, ligature or the caustic.

Lipoma is identical in structure with healthy adipose tissue, is composed of fat cells in loose connective structure, is generally found in those situations of the body where fat naturally abounds, as in the back of the neck, the shoulders or the buttocks and occasionally within the cavities of the body. They are



encysted or diffused, and sometimes possess a migratory character. *Histological elements*: a mass of fat enclosed in a fine, thin capsule. The capsule gives off septa, which dip into the mass and separate the growth into lobules; through this capsule it receives its supply of blood; they have loose attachments, are irregular in form, lobulated,

soft and doughy to the touch; of low vascularity; painless, except from nervous pressure; grow slowly, and often attain a large size. Terminations are adhesion, inflammation, degeneration and absorption. I removed a degenerate Lipoma from a female, weighing over five pounds, from the lower side of the abdomen, before the class of 1881, in the homœopathic clinic, U. of M.* At St. Louis I took out one weighing over 11 pounds.

* It is preserved in the "Eckel Museum" of the homœopathic college.

Treatment.—The remedies capable of effecting the best results are: *Bary.*, *Calc. c.*, *Bap.*, *Bov.*, *Caust.*, *Kali jod.*, *Phy.*, *Still.*, *Sil.*, and *Sulph.* Local applications of *Arn.* tinct. are often curative in the early stages. The surgical processes are excision of the entire mass with its capsule.

Angionoma is composed of a net-work of small blood-vessels connected by areolar tissue. There are three varieties, viz.: *Capillary*, *venous* and *arterial*. In the first the tumor consists of an enlargement of both arterial and venous capillaries; in the second of venous branches alone, and in the third of arterial twigs. They are of various sizes and colors from a deep rose to a purple and occur congenitally or soon after birth. Their favorite seat is on the face, lips, and mucous membranes. When they appear on the skin, are called *nævi materni*; are compressible, elastic and can be partially evacuated by pressure, do not pulsate and have no bruit; when they are large and composed chiefly of arteries they are termed *arterial nævi*, and are a variety of *aneurism by anastomoses*; they are elevated in form, of a bright red color, and pulsating. When of considerable size they feel when grasped by the fingers, like a wet sponge. At first the stroma of the *nævi materni* is the connective tissue, which soon assumes a kind of cellulo-fibrous appearance, having honey-comb spaces communicating with each other; the cells being bounded by convolutions of the vessels; finally all intervening tissues are absorbed and the tumor is composed of the blood-vessels alone with their convolutions. Their boundaries are not prominently defined except when they are invested by a thin capsule.

Treatment.—The remedies which have produced the most beneficial results in the treatment of these affections are: *Acet. ac.*, *Ars.*, *Borac.*, *Ham.*, *Iod.*, *Lyc.*, *Sec.*, *Sil.*, *Sepia.*, *Sulph.* and *Thuja*. The surgical means which up to the present time have been most relied upon are: Excision, ligature, and the galvano cautery. Injections of *Per. Sulph.*, *Ferri.*, *Sec.*, *Ham.*, *Carbol.* and *Acet. acids*; heated needles through the base, vaccination and fuming *Nitric acid* externally. If they are situated upon or in close apposition with important blood-vessels, or incorporated with prominent nerve trunks, the operation becomes correspondingly hazardous. If they are encapsulated, the hemorrhage during removal is

slight. These nævi are often gotten rid of by pressure produced by collodion plaster, by cauterization with red-hot needles run through the base of the tumor, or by vaccination. *Nit. ac.* has been used to produce sloughing and consequent disappearance of the growth. Prof. Helmhuth has employed with success, injections of the fluid *Extract of Ergot* into the tumor, repeating the process after a lapse of eight days. He uses from 40 to 60 drops of the fluid extract, even in those cases where there is considerable pulsation. The injection of the *Per Sulph. of Iron* has been followed by death and on that account is not considered safe.

Capillary Hypertrophy.—Ectasis is the most frequent form of these vascular growths, and is the variety to which the name of “mother’s mark” is most appropriately applied. They are usually congenital, occur upon the face and neck, and are composed almost entirely of dilated and tortuous capillaries, involving the cutis alone, with little or no elevation above the skin. They are of a bright red color, and vary in size from a mustard seed to several inches in extent and sometimes disappear spontaneously. They grow slowly and after the lapse of many years attain considerable proportions; occasionally they are associated with the *venous capillaries*, when the surface becomes elevated and the color assumes a variegated or mottled blue and red appearance.

Treatment, when desirable is often successfully met by the internal and external use of *Thuja*. *Calc. c.* has also been employed with good results. Dr. Hemple advised the external use of *Kreasote*, one drop of the tincture to eighty drops of water, applied two or three times a day;—the effects being excoriation, ulceration and cicatrization, with scarcely any disfigurement remaining. *Croton oil* is said to be equally efficacious.

The surgical treatment is the seton, thread, ecraseur, red hot needles, etc., etc., as recommended for venous nævi. Mr. Skey recommends, that when the nævus is large, “threads should be passed across the growth in various directions and not necessarily through its centre, but occupying its substance in all directions.” A large nævus may require eight or ten threads. The object is to procure suppuration, which as soon as established, demands the removal of the threads. To this should be added a little pressure if it can be conveniently applied. Dr. Maas, of Breslau,

has collected the histories of 112 cases treated by the galvanocautery, with the following results. *Capillary* nævus, cured, 32; improved, 1; result unknown, 1. *Venous* nævi, cured, 72; improved, 1; result unknown, 1; died, 3. *Arterial* nævi, cured, 2; improved, 1. Nævi combined with other tumors, cured, 6; improved, 1; result unknown, 2.

Moles.—These peculiar growths of imperfectly-organized skin with colored matter in its interstices, exhibit a likeness to that capillary and plexiform vascularity that belongs to the true angioma. They occur upon different parts of the body, and like warts and angioma, possess that kind of ectasy of structure which in advanced life from rude manipulation may become the seat of malignant growths. For this reason they should be extirpated whenever they seem inclined to spread and become irritable, before they assume the nidus of epithelioma or cancer. Throughout this condition the health of the person should be carefully watched and prompt treatment employed whenever the least disposition is observed that looks towards degeneration of structure.

Osteoma.—The tumors of bone like those of the soft structures are divided into the *innocent* and *malignant*. They occupy the periosteal or external surface of bone, the medullary membrane or cancellated structure. True bony tumors are not so common as those containing bone elements as part of their constituents, which are seen in various portions of the body.

Exostoses are those tumors which are attached to bones and are divided into three varieties: the *spongy*, *hard*, and *eburnated*.

Spongy exostoses are those which take place in the epiphyses of long bones, enclosed with a thin layer of epiphyseal cartilage. Virchow calls them the *enchondrosis ossificans*; they are smooth, hard, globular, and nodulated or have spinous projections; grow slowly; are painless and produce no discoloration of skin; the tibia, fibula and humerus are their most frequent seat and can only occur before complete ossification of the epiphyseal cartilages.

Hard exostoses resemble the lamellated tissue of natural bone; are more often spinous in form, and occur usually at points of muscular attachments; they are hypertrophies of natural spines

and processes, and take place on parts of the skeleton subject to pressure and attrition; they affect the long bones.

Eburnated growths are unfrequent. They grow from the inner or outer surface of the cranial vault, sometimes springing from the diploic structure, or in the frontal sinuses, orbital plates and antrum. Paget calls attention to a variety emerging from the last phalanx of the great toe. They are rarely one-half an inch in diameter on the outer plate of the cranium; in other parts they assume larger proportions, but are developed on flat bones.



Microscopical observations show ivory-like exostoses exhibiting Haversian canals, lacunæ and lamellar structures more compact than bone, and

possess less animal matter and carbonates, and more phosphates than normal bone; cause is a hyper-nutrition of bone tissue; exostosis when occurring near joints frequently bridge over articulations and produce ankylosis. They not only interfere with functions of adjacent parts, but may become dangerous to life. Upon the internal surface of the innominate they may afford a dangerous obstacle to labor; within the cranium or vertebræ they may occasion fatal pressure on the brain or spinal cord. They are of slow growth and in the early stages produce little trouble, but as growth increases the symptoms are correspondingly severe; severe neuralgic pains, abscess, epilepsy and paralysis may follow in their train.

Treatment.—The internal remedies upon which the greatest reliance is placed are: *Ars.*, *Aur.*, *Arn.*, *Asa.*, *Hecla lava.*, *Hepar.*, *Mez.*, *Merc.*, *Phos.*, *Nit. ac.*, *Ruta.*, *Lyc.*, *Sepia.*, *Symph.* and *Sulph.*

The surgical measures are excision, *Nitric acid* or *potassa fusa* to the base to induce necrosis.

Lyc., *Sil.*, *Mez.* and *Ledum* cured exostosis in a boy eight years of age.

Hecla, lar. has been used by Helmuth with indifferent success.

Sepia, effected a cure in enlargement of the tibia in eight weeks.

Sil. has cured many cases of exostosis in my hands when all other remedies had failed.

Phos. has given me excellent results in exostosis of the head and face.

Cystoma in Bone is an expansion of osseous structure containing serous or gelatinous matter. It occurs in the upper and lower jaw; lower end of the femur; may be either unilocular or multilocular, and contains fluid or solid materials; it is the *osteosarcoma* of the old authors when the tumor consists of a bony shell filled with fibrous or fibro-plastic matter; when its contents are fluid forming a tumor in bone, they constitute a smooth, round or oval growth, *osteo cystoma*, and increase slowly with little or no pain; the skin covering them is normal in color and the veins skirting them are usually blue, enlarged and tortuous. They attain a much larger size than the preceding, and are seen principally in adults, and are the *spina ventosa* of the older writers. Pressure produces a peculiar crackling or rustling sound similar to that made by the pressing together of a broken egg-shell in the clinched hand, or the crackling of tin-foil.

Asa., *Phos.*, *Sil.*, *Calc.*, *Hepar*, *Staph.*, *Sepia.*, are the representative remedies in this type of the disease. After having employed one or more with no appreciable benefit, recourse should be had to surgical procedures.

Hydatids in Bone are of exceedingly rare occurrence, and consist of cavities formed in bone of various sizes in which large numbers of hydatids are lodged—both the *acephalocyst* and the *cysticercus cellulosæ*, have been found within these cavities, the former being the most frequent. These cysts become thin and expanded, resembling the ordinary fluid cystic tumor, the contained entozoa constituting the chief difference.

Treatment.—The remedies employed in these diseases from their extreme rarity comparatively, have not been fully tested as to their therapeutical importance. I would, however, suggest a reference to the following as the most appropriate to meet the indications usually presented, viz.: *Asa.*, *Calc. c.*, *Hepar*, *Merc.*,

Mez., *Phos.*, *Nit. Ac.*, *Sil.*, *Ruta.*, *Staph.*, *Sepia*. The surgical treatment is their removal, either by amputation, enucleation, or excision. If the cystic growth occurs in flat bones, the cavity may be scooped out and dressed from the bottom with *Mezer.*, *Symphylum.*, or *Ruta grav.* lotions, inducing the filling up of the cavity with healthy granulations.

Osteo-aneurisms, like aneurisms elsewhere, are of gradual growth, are elastic to the touch, oval in shape, without enlargement of the veins or discoloration of the skin. Its special signs are its pulsation and bruit; compression of the main artery leading to the part diseased, diminishes the size of the tumor and all movement and bruit ceases. These signs frequently intermit, appearing distinctly in the earlier stages and disappearing as it advances, or vice versa. The true osteo-aneurism is only met with in articular ends of long bones.

Pulsating Malignant Tumor in Bones.—The pulsating malignant tumor, which is a malignant form of disease is frequently multiple and the pulsation and bruit occurs in more situations than one. The tumor takes on the character of malignant growth, which consists of a creamy, curdy, or soft, brain-like mass of great vascularity with constitutional contamination.

Treatment.—The internal treatment of these aneurismal growths has not resulted in anything like a satisfactory termination. I would, however, recommend the study of the following which seem to exercise a powerful control over that dyscrasia of the system which constitutes the germ force of their appearance and growth: *Calc. c.*, *Calc. fluor.*, *Asa.*, *Fluoric ac.*, *Graph.*, *Hecla lava.*, *Nit. ac.*, *Merc.*, *Sec.*, *Phos.*, *Sil.*, *Staph.*, *Therid.*, and *Sulph.* The surgical means are ligation of the main artery and in case of return, amputation. The thermo-cautery has been recommended but its good results have not been satisfactory.

Malignant Bone Tumors, Osteo-cephaloma or cancer in bone is the most common form of malignant growth invading the osseous structure. It originates in the spongy portions, its favorite seat being in the lower jaw and long bones; it is globular and lobulated, elastic and often semi-fluctuating; its varieties are *periosteal* and *interstitial*; the former affects principally the long bones; the interstitial is confined to the flat bones as a rule.

Symptoms.—The pains at first dull and deep-seated, soon become intense and lancinating; the volume of the bone increases, the soft structures soon become red and inflamed, the tumor softens and presents a sense of distinct fluctuation and crepitates on pressure. The external parts now become livid and dark red, ulcerate, and permit a portion of the softened growth to protrude in the form of a fungous; this is followed by a profuse discharge, thin and bloody, the system participates in the disorder, the lymphatics enlarge and the peculiar cancerous cachexy is evidenced by much constitutional irritation and exhaustion. Fractures are liable to occur if the disease is situated in the long bones, which adds greatly to the complication already existing. If encephaloid occurs as an *infiltration* in the spongy structure, no distinct circumscribed tumor is formed.

Treatment.—In the *early stages* of this affection much benefit will be derived from those remedies which are indicated in accordance with presented symptoms, among which are: *Aur., Asa., Bell., Calc. c., Calc. f., Caust., Lye., Lapis. alb., Merc., Mez., Phos. ac., Nit. ac., Sil., Sulph.* and *Thuja*.

Purely surgical means do not promise any lasting impression on the disease after systemic infection, for the tendency is to return after removal, either at the site of the original disease or at some more dangerous locality. But amputation or excision in connection with the indicated homœopathic remedy, promises better results than any present known method of treatment.

Osteo-Myeloid, or Spindle-Cellled Sarcomata, is sometimes met with at the articular ends of long bones, occupying the cancellated structure; is most frequent at the lower end of the femur and radius, head of the tibia and humerus, and in the jaw and scapula. It develops locally, tends to recur after removal; the more rapid its growth, the greater its malignancy and the probability of its return after operation. They grow slowly, are oval and lobulated, have an elastic feel, are firm, fleshy, and painless, and never ulcerate. The arteries supplying them are dilated. They contain spiculæ of bone with cysts of various sizes, mingled with mixed fluids of serum and blood.

Histological Elements—The cells are fusiform and oat-shaped from 1-300 to 1-1000 of an inch in diameter, and contain from two

to twelve oval nuclei, with nucleoli and resemble the cell structure of the fœtal marrow. The cell-structure is very abundant and a soft, gelatinous or colloid substance intermingles within. It is a semi-malignant growth and like the fibroid class, is liable to recur after removal.

Epitome of Treatment.—*Arn.*, and *Ruta.* for contusion of bone.

Aur. mur., and *Merc. iod.*, for exostosis.

Asa., *Merc.*, *Mez.*, *Aur.*, *Arg. nit.*, *Ac. fluor.*, *Ac. phos.*, *Phytol.*, and *Sil.* for inflammation and caries, with ulceration of bony structure.

Merc. prot., and *iod.*, *Ars.*, *Iod.*, *Sil.*, *Ac. fluor.*, *Symph.*, *Phos.*, *Ars.*, *Asa.*, and *Silicate of lime* for necrosis.

Sil., *Kali jod.*, *Kali bichrom.* for cranial nodes; *Merc. cor.*, for tibial; *Rhus.* and *Staph.* for soft nodes, and *Aur. mur.*, for hard nodes.

Aur., *Asa.*, *Merc.*, *Ruta.*, *Ac. nit.*, *Ac. fluor.*, *Ac. phos.*, *Staph.*, *Phytol.*, *Eupat. pur.*, for severe pain in bones.

Sil., *Aur. mur.*, *Mez.*, *Kali jod.*, for acute periostitis.

Cal. c., *Sil.*, *Ac. phos.*, *Calc. phos.*, *Merc.*, and *Sulph.*, for softening of bones.

Special Indications.—**Acon.**—As usual when inflammation exists.

Ars.—Burning pain—like an ulcer—boring.

Asaf.—Acute pain, changes to other kinds of pain on touching or pressure. Intermittent, like a plug, as from a shock.

Aurum.—Burning stitches; gnawing; excited by touch; caries of nasal bones; is an anti-mercurial remedy; caries and violent pains.

Baryta c.—In old cases, chronic cases. Scrofulous patients.

Bell.—Extreme sensitiveness; dread of being touched or jarred.

Calc. c.—Chronic; scrofulous; hard, bloated abdomen; coldness; sweating of hands and feet.

Iodine.—Proceeding to suppuration, which is very profuse.

Merc. v.—Pain as if broken, and usual symptoms; violent bone pains; swelling and redness of the skin; in caries and chronic osteitis, also in periostitis; in fact any disease of the osseous tissue; bone pains at night; no relief from sweating; [sweats easily].

Nitric. ac.—Mercurial cases. Prickling pain, etc.

Phos. ac.—Feeling, as if the bone was scraped with a knife; in non-mercurial osteitis; disposition to caries in the vertebrae; bone affections of children.

Silicea.—Threatening caries, with thin brownish, unhealthy suppuration; fistulas; brown, thin pus, excoriating and offensive.

Angustura.—Easily angered from slight cause.

China.—Great weakness and profuse suppuration.

Fluoric ac.—Syphilitic caries.

Ruta g.—Pains as if bones were broken or sprained; the skin erysipelatous.

Hecla lava.—Osteo-sarcoma, particularly of jaws. Arrests growth but not proved curative.

Mezer.—Pains severe; burning pains. Pressure aggravates; skin of part brown and dry, surrounded by reddish blue; is particularly adapted to periostitis; before suppuration has set in; pains in the superficial bones and when the external portion is involved.

Phos.—Shining, painless, uninfamed tumor.

Silicea.—Cases proceeding to suppurate, with characteristic pus, etc.

Staph.—Ostitis with severe pains; bone and periosteum both affected; facial bones in scrofulous persons.

Other remedies may be needed in the beginning, or to complete a cure: *Bell., Ang., Phg., Baryta, Iode., Sulph.*

Differentiation of Innocent and Malignant Bony Tumors.

—Mr. Paget gives the following diagnostic rules for distinguishing these bony tumors, viz:

“1st. The tumor is probably cancerous if its growth commenced before puberty, or after middle age, unless it be a cartilage or bony tumor on a finger or toe near an articulation.

“2d. If a tumor has existed, on or in a bone, for two or more years, and is still of a doubtful nature, it is probably not cancerous or recurrent.

“3d. If a tumor, on or in a bone, has doubled, or more than doubled its size in six months, and is not inflamed, it is probably cancerous or recurrent; and this probability is increased if among the usual coincidences of rapid growth, the veins over the tumor have much enlarged, or the tumor has protruded through ulcerated openings, bleeds and profusely discharges ichor.

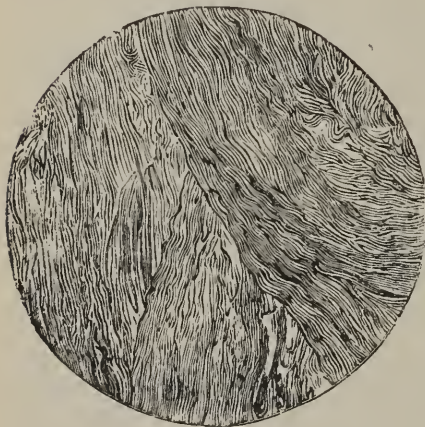
“4th. If in any such tumor not being inflamed, the lymph-glands near it are enlarged, it is probably cancerous, and still more probably if the patient has lost weight and strength to an amount more than proportionate to the drainage of health by pain, or fever, or other accident of the tumor.

“5th. A tumor on the shaft of any bone but a phalanx is rarely innocent, and so are any but cartilaginous outgrowths on the pelvis, or any but the hard bony tumors on the bones of the skull.”

Of all the malignant diseases in bone the encephaloid is the most frequent. Its varieties are the *periosteal* and *interstitial*; the periosteal affecting the long bones, and the interstitial the flat bones.

Fibroma.—The connective tissue from which these tumors are developed, exists in all parts of the body—no structure is exempt from their formation. They occur most frequently in the cutis, sub-cutaneous areolar tissue, and upon the periosteum, antrum and nares; in the mamma, uterus and testes. They grow slowly, attain large size; their surfaces are smooth, hard, and sometimes nodulated, without discoloration; are painless except when pressure is made upon a nerve.

Histological Elements.—They are composed of very tough



and firmly interlaced fibrous tissue, arranged in wavy bundles, or in concentric layers around distinct axes; a few imperfectly developed cells and nuclei are usually scattered through their substance.

Pathology.—When cut into they present a white, glistening ligamentous appearance, and finally disintegrate and break down

into a semi-fluid mass. The integuments become disorganized, inflame and mingling with the contents of the tumor, produce a fungous growth. Fibromata are not always composed of a single element. Either originally, or by subsequent progressive or retrogressive changes, they are found to assume a variety of forms and of combinations which render it necessary to recognize several sub-divisions. Thus, we find under the general head of fibromata, are included the following varieties, whose histological differences would seem to possess some important clinical significance; the fibro-plastic, fibro-cellular, fibro-muscular, fibro-mucous, fibro-neuroma, and glioma.

Fibro-plastic.—These tumors resemble most other fibroids in their situations and modes of development. They commonly occur in young or middle-aged persons, are painless, originate without any known cause, are more rapid in their growth than the purely fibrous tumor, and have the tendency to return after extirpation, and in some cases assume a malignant or semi-malignant type. They are often associated with myeloid growths. The microscope reveals the fact that they are different from other fibromata, in this, that they consist almost exclusively of elongated, fusiform cells, containing usually a single oval or oat-shaped nucleus and nucleolus and are very liable to return after removal, in the cicatrix. According to Libert they are of two varieties, the soft and the hard.

The *soft* variety resembles encephaloma, though more elastic and not so readily torn. It yields when cut, a clear, serous juice, and possessing the characteristics of flabby granulations resembles the formations around carious bones.

The *hard* variety or real sarcoma, is of the consistence of muscle or rather kidney, but are not so firm as the fibrous tumor; the color varies from a reddish yellow to a deep fleshy red, the growth being homogenous and finely grained; ecchymotic spots are intermingled with fibrous bands which show alternating tints in patches and contain many blood vessels. Externally they are smooth, lobulated and globular, and are situated in the skin, sub-cutaneous and sub-mucous areolar tissue; in the deep muscles of the thigh; in or upon bone, especially of the lower jaw; in the dura mater; in the mammae, and in the lymphatic glands. They grow slowly, attain a large size, are usually single, may occur at any age, and are oftentimes attributed to a syphilitic taint. The only reliable treatment is extirpation. *Kali iod.* and *Sil.* have been given with success.

Fibro-Cellular tumors grow more rapidly than the pure fibrous growths, have an elastic feel, and are formed especially in the nose, and are called the soft polyps. They are also seen in the external meatus of the ear, vagina, and in tissues divested of fat. Rokitsansky calls them a *gelatinous sarcoma*; Voight a *connective tissue tumor*; Muller a *cellular fibrous growth*, and Virchow a *myoma*, one of the endless varieties of sarcoma. Billroth classifies them as belonging to the *adenomata*, in consequence of their occurring in the mucous membrane of the nose, rectum and other portions of the large intestine. He says, they consist, in a great extent, of elevated and newly formed glands of the mucous membrane, whose closed ends sometimes dilate the mucous cysts. In children these soft polypi occur more frequently in the rectum and large intestines; from puberty to about the twenty-third year of life, they have a preference for the mucous membrane of the nose and fossæ of the upper jaw, and about the age of thirty in females they are most frequently met with in the mucous membrane of the uterus. Remedies that have effected the best results are *Calc. c.*, *Hepar*, *Merc.*, *Phos.*, *Sepia*, *Teucrium*, *Kali iod.*, *Staph.*, *Sang.*, and *Sil.*

Fibro-Myoma.—This tumor belongs to the more solid types of fibromata; when subjected to the microscope there is found “a fine areolar stroma, composed of undulating and interlacing fibrous glands, in the midst of which are numerous nuclei and more or less elongated fibrin cells, which Virchow calls *muscle* cells, in consequence of their elongated and spindle-shape appearance. He arranges them, therefore, under the *myomata* and fibro-myomata, like the pure fibromata. These tumors are generally benign in their character, and do not return after thorough extirpation.

Fibro-Mucous Tumor, or *myxoma* of Virchow, is another variety of the fibro-cellular tumor in which the connective tissue is so extremely delicate that it resembles the connective tissue of the vitreous humor, and the fœtus *in embryo*, or the whartonian jelly of the umbilical cord. When cut into, there is presented a yellowish, opalescent, jelly-like surface, which subjected to the microscope, display rounded, oval, elongated or branched corpuscles, with a finely fibrillated connective tissue. The external surface of these growths present a somewhat uneven surface; the integument is frequently discolored; under pressure they give a soft elastic feel, and they either increase rapidly and finally attain a large size, or they may ulcerate and bleed, with disintegration of considerable portions and final sloughing. Having a greater tendency to return after thorough removal than other varieties of fibromata, they are classed as *recurrent*.

Fibro-Neuroma.—This growth consists in most cases of connective tissue fibres distributed among the nerve filaments. So close is the analogy between this tumor and that composed of nerve elements, that Paget and Moore say it is impossible to distinguish the one from the other. These tumors may be developed upon any point of the cerebro-spinal nerves without apparent cause, the nerves of the special senses, and those of the ganglionic system being rarely affected. Their most usual seat is upon some of the peripheral nerves, especially of the lower extremities, and when situated in the superficial areolar tissue, they are known as *painful sub-cutaneous tubercles*. They sometimes grow to about the size of a hazelnut, but usually only attain the dimensions of a pea or bean. They are hard, tense and movable,

except in those cases when they become incorporated into the superincumbent skin; they are extremely painful and are generally subject to severe, lancinating paroxysmal pains. The skin is rarely discolored, but at times there is present a shining, vascular and arborescent appearance.

Fibro-Neuroma Traumatica.—The traumatic neuroma have their seat in or upon the divided portions of nerves, forming at the point of nerve division a bulbous enlargement or growth, which can be distinctly felt and is exquisitely painful to the touch and often gives rise to hysterical symptoms in sensitive organisms. They are generally encased in a capsule of moderate firmness, but are never embedded beneath the neurilemma, or between the fasciculi of nerves. Extirpation is the only reliable and prompt method of cure.

Glioma.—Virchow defines this variety of tumor as a soft vascular tumor, originating in the neuroma, and is composed of delicate interstitial connective tissue of nerve and connective-tissue corpuscles. During the periods of infancy and early childhood, the retina is the favorite seat of this affection. The complete and early extirpation of this growth is the most successful method of cure, although in many cases where appropriate internal medication has been employed, the growth has speedily recurred with a rapidly fatal termination.

Treatment of fibromata consists in many instances, in relief by operative interference; the tumor having been once thoroughly removed, seldom recurs. The recurring fibroids present no symptoms, no anatomical or other peculiarities before removal, by which they can be distinguished from the innocent variety. The discussion of these growths by internally administered remedies, has of late occupied the attention of the homœopathic profession, but with the exception of a few published cases, no very great amount of benefit has been derived from such treatment alone.

Belladonna was highly recommended by the late Dr. Bowers for these growths when they occupied the connective tissue of the mammae, accompanied with pain and induration.

Calc. phos. is useful in those sensitive systems when fibromata appear in different parts of the body, and where they are dependent upon depressed vital force.

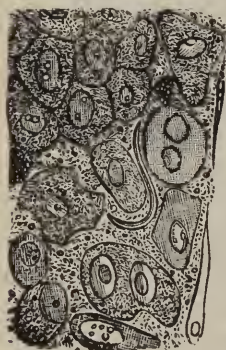
Conium has been highly spoken of by Dr. Gilchrist as curative of the fibro-neuroma, and a case is reported where success followed the use of the remedy. He also recommends for the fibro-plastic tumors *Ars.*, *Lach.*, *Merc.*, *Sang.*, *Sil.*, *Teucrium*, and *Sulph.* Prof. Dunham reports cases of fibro-cellular growths cured by *Calc. c.*, *Teucrium*, and *Staph.* Dr. John Pattison, of London, has treated successfully this variety of fibromata, with a snuff of powdered *Rad. Sanguinaria canadensis*. Dr. John Butler has employed with marked success *electrolysis*, not only for the fibromata, but other varieties of tumors; he says the disappearance of fibrous tumors "can be caused by producing a slough within the tumor, not sufficiently large, however, to cause its entire destruction, but of such dimensions that will be too large to be readily absorbed. Such a slough will act as a foreign body, and will cause inflammation, followed by suppuration, which changes the morbid growth into an abscess, which either can be opened or allowed to discharge itself spontaneously, and so the tumor is got rid of." In those cases that will not admit of such a procedure, he introduces "small insulated needles into several parts of the growth, using a current just strong enough to cause small eschars or coagula to form around the needles, which interfere with the nutrition of the growth by acting as barriers to the blood supply, and which are not sufficiently large to cause suppuration, but after a time are absorbed; besides this, the action of the current exercises its catalytic effects, and assists in promoting absorption of the tumor." Extirpation or thorough evulsion of the tumor is also practised to a large extent in the removal of these growths, and surgeons generally are more partial to these procedures than the others first mentioned. I have operated several times on the "recurring fibroids," and have witnessed the painful appearance of their return when I was flattering myself that the cure was entire and complete. In a good many instances I have seen these morbid growths disappear under the use of some of the medicines recommended above, and when the hasty method is not acceptable to the patient, I would advise a careful study of the pathogenesis of the remedies above indicated, and the selected remedy employed for curative purposes. I believe

the day is not far distant when all these morbid growths will succumb to the potent and curative action of homœopathic remedies, and their cure will be effected by these means with as much precision as are at present the most tractable diseases.

Enchondroma.—*Synonyms*, osteo-chondroma, osteo-sarcoma, or cartilaginous tumor, is developed from connective tissue and is often associated with the periosteum, especially of the bones of the hand, or it may occur in the soft tissue of the glands, as in the parotid or the testicle. Enormous growths have occurred in the femur, scapula, and pelvis; in its simplest form it is almost identical with fetal cartilage.

Histological Elements.—Under the microscope is seen a stroma, which may be hyaline, granular, or slightly fibrillated, and in which there are large, round, oval or caudate cells, containing nuclei, which are 1-700 to 1-1500 of an inch in breadth; the cell wall may be distinct from or blended with the inter-cellular substance. The nuclei are mostly single, rarely double, with oil granules in abundance, with here and there projections like those of cartilage in process of ossification. Its chemical properties are phosphate of lime and *chondrine*, which is a peculiar variety of gelatine, extracted from the temporary cartilage of the fetus or from the adult cartilage by being boiled in water.

Symptoms.—Cartilaginous tumors are firm, elastic, smooth, and nodulated; occasionally soft, and may be mistaken for cysts; they are developed *within* the bones, (when they are oblong, oval or fusiform) which they cause to expand into a thin shell; or *upon* their surfaces, beneath the periosteum when they are irregular, nodulated and elastic, and present a skeleton of light, leafy plates with spiculæ of bone shooting through their substance; or they may become ossified from internal centres of ossification; they appear in the early period of adult life, are often multiple and sometimes hereditary, grow slowly as a rule and are unattended with pain, and rarely return when thoroughly removed: they often cease growing under systemic improvements without change of



structure. If not removed they involve the skin, ulcerate and slough; fistulous openings form, and a viscid ichorous fluid discharges; ossification and disintegration may co-exist in different parts of the same tumor, or calcareous and fatty degeneration may also occur.

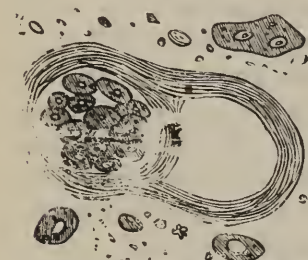
Treatment.—The remedies that have proved most efficacious in the cure of this disease are: *Arg.*, *Aur.*, *Sil* and *Sulph.* More cases are reported cured by *Sil.* than all other remedies. The surgical treatment is excision, when the tumor is formed *upon* the bone, and the removal of all bone found diseased. Free incisions or removal of a portion of the walls, followed by injections of *Mez.* and *Symph.* have occasionally succeeded in the cystic form of the affection. Amputation in certain cases when the tumor develops within the bone is also to be considered. After careful removal by resection, these tumors seldom return. Much benefit will be experienced by attention to general conditions of the system, including hygienic and therapeutic measures that promote health and rectify faults of constitution.

Epithelioma is a tumor originating in the stratum malpighii of the skin, and in the epithelium covering the mucous and perspirable surfaces of the body, the prepuce, lips, vagina, cleft of the nates and axilla. Sometimes it begins among the deeper structures, and at others, especially at old age, it is developed from the irritation of a wart, old eczema, papilloma, smoking of a pipe, or picking of the lip. It increases slowly, invades adjacent tissues, extends deeply and ultimately destroys them and perhaps the life of the patient.

Pathology.—It begins as a wart, fissure or tumor, and spreads by infiltration, and is more fatal on the lip, tongue or penis. Soon there appears a soft, itching vascular spot with desquamation of cuticle, or a patch covered with a dry crust or scab, with hypertrophied papillæ, resembling warts or excrescences; these sprout and resemble cauliflower growths, with narrow necks, or they may have broad, flat and low bases. The connective tissue is subsequently invaded, the proliferation of cells downward assume various forms, and with the rapid increase of new cells and the circumferential pressure of the surrounding connective tissue, they are forced to occupy the least possible space, which form the

concentric and stratified layers, termed "cell-nests"; epidermic globes or tubercles of histological authors. The peculiar characteristics of these tubercles or globes is their hardness. In time, however, they undergo a necrobiotic process, by pressure and an arrest of vitality and finally ulcerate and destroy the invaded tissues. It occurs after the age of 40. Men are more liable to it than women and it is homologous in its elements.

Histological Elements.—The microscope exhibits layers of epithelium arranged in connective circles, around and between the papillæ, intermingled with yellow fibrous tissue thickly studded with epithelial cells, with their nuclei and fibroplastic matter. They are arranged into "cell-cylinders," constituting the "broad nests" or "pearly nodules," which are thus formed by continual cell infiltration and pressure constantly exerted upon them.



A, cyst inclosing small cells; b, large round cells; c, empty cysts. (From DaCosta.)

Treatment by internal remedies in this disease has been more than ordinarily successful. The following have several cures reported by their use: *Acetic ac.*, *Apis m.*, *Arg. nit.*, *Aur.*, *Carb. an.*, *Carbol. ac.*, *Clem.*, *Con.*, *Chelid.*, *Hydrast.*, *Hydrocotyle*, *Kali bi.*, *Kreas.*, *Puls.*, *Sulph.*, *Stilling* and *Thuja*.

The surgical treatment is enucleation and excision. In case the knife is resorted to, the utmost care should be taken that *all* the diseased part is removed, the return of the growth thereafter is not likely to occur if the appropriate remedy is employed, viz.: *Hydrocot.*, *Phos.*, *Sep.*, *Sil.*, *Hydrast.*, *Thuja.*, for the stationary period; *Apis.*, *Ars.*, *Bell.*, *Con.*, *Hydrocot.*, and *Merc.*, for the painful stage; *Ars.*, *Bell.*, *Caust.*, *Clem.*, *Lach.*, *Hydrocot.*, *Hyd.*, *Still.*, *Carbol. ac.*, for the ulcerative stage.

Papillomata are found where the mucous membrane terminates in the tegumentary; at the angles of the mouth, upon the lips, tongue, in the external auditory canal, in the larynx, at the verge of the anus, upon the glans penis, about the meatus urinaris of the female, upon the labia, vagina and os tincæ. When growing from mucous membranes they are soft and highly vas-

cular, like cock's-combs; each separate papilla presenting a tuberosity or leaf-like form; when large numbers are hypertrophied and aggregated together, the surface looks granular, the papillæ being separated by vertical fissures into lobes and lobules. These growths sometimes arise from the matrix of the nail and project between the integument and extremity of the nail. Whenever these tumors are associated with a cancerous degeneration, they have narrow and pedunculated bases.

Treatment.—The treatment of papillomata unaccompanied with cancerous degeneration consists of removal, either by the knife, or scissors, evulsion, enucleation or cauterization. If they are of *syphilitic* origin, due attention must be given to the remedies recommended under that chapter. Possessing a low degree of vitality, their removal may be effected by escharotics of various kinds, or by the application of *Thuja* tincture, *Nitric* or *Chromic acids*, *bi. sulph. of Iron*, *Lapis calaminaris*, etc., etc., repeated at intervals until the growth is entirely eradicated.

Ac. nit., *Thuja.*, are leading remedies if they make their appearance after an attack of gonorrhœa.

Cinnab., *Nit. ac.*, *Phos. ac.*, *Staph.* and *Thuja.* when complicated with syphilis.

Thuja, *Staph.*, when they are exuberant, like mulberries or cauliflowers.

Lyc. and *Nit. ac.*, when they have pedunculated bases.

Sepia., for large, hard verruccæ. *Sulph.*, for soft spongy papillomata.

Sabin., when itching and burning are intolerable.

Nit. ac., for soft, moist, warty excrescences with thin epidermis.

Warts, Verruccæ, are those papilliform growths that occur upon the integument, and especially upon the hands of children, between the periods of infancy and puberty. They are seen singly and in groups, are said to spread by contagion, especially those which furnish a moist secretion from their surfaces. They are occasionally seen in old age, when by some rough manipulation or scratching they degenerate into a form of semi-malignant ulcer. The simple wart is composed of epidermic cells arranged in a papillary form.

Treatment.—They should be painted twice a day with *Thuja*, at the same time the remedy should be given internally. When *Thuja* does not succeed, *Rhus* may be substituted in the same manner.

Sulph. once a day for a week or two is an excellent remedy when the warts upon the hands are numerous and obstinate. It should also be used after other medicines, to eradicate the tendency to recurrence. *Dulc.* is also highly recommended when they appear in numbers upon the body. *Ant. c.* has also proved curative in certain cases.

Calc. c., Clem., Graph., Hepar, Lyc., Petrol., Plumb., Sepia, and *Sil.* may be consulted when other remedies have failed to remove them. The hard scaly warts may be removed by saturating the growth with glycerine and applying warm water by means of a pledget.

Horny Growths.—*Cornua cutanea.*—These excrescences are sometimes seen growing upon the integument covering the face and scalp; occasionally they grow to a considerable size and have attained several inches in length. They strictly belong to the dermatia variety of tumors, and consist of moderately enlarged papillae, with an excessive epidermal formation. In shape they are usually conical and bent upon themselves resembling ram's horns. Their surface is marked by rough rings, indicating the different stages of growth; at times they are "knotted and covered with small pearl-like scales." In certain cases the epidermic deposits of which they chiefly consist, project from sebaceous cysts or hair follicles; but their character is essentially the same as those examples which arise from the tegumentary papillae.

Horns upon the Nails.—The nails of the great toes are subject to hypertrophy in consequence of long continued irritation of the sub-ungual matrix, occasioned by pressure which produces an excessive deposit of epithelium. They appear "as large convex, or bosselated solid masses, and examples are reported in which they have risen to the height of one or two inches." They are sometimes met with in old persons in our public hospitals, and women are more subject to them than men.

Treatment.—The only radical treatment in such cases is excis-

ion of the hypertrophied nail, including its matrix. I have amputated the toe in two cases, when all ordinary treatment such as scraping, filing, immersion of the toe in alkalies, and finally excision of the nail failed in affording perfect relief.

Clavi.—*Corns.*—These pestiferous growths are the result of wearing tight or badly fitting boots; the pressure of the boot occasions corns, projections and sometimes hypertrophy of the joints. This pressure generates inflammation of the cutis, and consequent excessive development of the epidermic cells, which accumulate towards the center of the surface irritated, producing a dry and hardened mass, painful and conical in shape, the apex of the cone impinging upon the bone of the toe. These are termed the *hard* corns, the *soft* corns, being situated between the toes where they are kept continually moist and soddened with perspiration.

Treatment.—This consists first, in restoring by mechanical measures, the vitiated position of the toes, and secondly, by adapting to the foot a proper fitting boot, which should have sufficient width and length to permit unrestrained motion to the toes. Then soak the foot in warm water till the surrounding skin becomes soft, when the hard base of the corn should be gently extracted by the finger nail or other dull instrument and the thickened skin pared off without wounding the neighboring tissues. Now dress the corn with *Arnica* lotion (30 drops of the mother tincture to two ounces of water); next morning apply a patch of arnicated plaster; or paint the part with perchloride of iron or castor oil. Repeat this dressing for two or three weeks or till the inconvenience is removed. A valuable temporary dressing is the *arnicated amadou or felt plaster* applied to the corn; a hole of larger size than the corn having been made into the plaster, so as to protect the growth from pressure of the boot. If internal treatment is necessary, *Calc. c.* and *Sulph.* are exceedingly efficacious remedies; the sulphur to be taken twice a day for ten days, then waiting two or three days when the *Calc. c.* should be repeated in the same manner. *Sepia*, *Ant.*, and *Graph.* in my hands have proved excellent remedies.

Soft Corns.—Can be successfully treated by carefully removing the thickened skin as above directed and applying a few

drops of diluted *Arnica*, and placing a layer of cotton wool between the toes, changing it daily. When they become very large and horny, a visit to the chiropodist is often a grateful and permanent benefit to the suffering pedestrian.

Bunion is the term applied to those hardened elevations which sometimes form upon the inner and upper margins of the metatarso-phalangeal articulations of the great toe, and at corresponding points of the smaller toes. The only difference between them and corns is that they occupy a greater surface, the epidermic layer is thinner, and the distinct bursal sac that is almost always present beneath the callosity. In very old corns this bursa is occasionally found beneath the apex of the epidermic core. They sometimes become inflamed and occasion much pain and inconvenience, and arise from the causes that produce corns.

Treatment.—In recent cases when the sac is thin, the contents may be evacuated by the aspirator and an injection of *Tinct. Iodine* thrown into the cyst. In old cases where the bursa becomes thickened, this proceeding is unavailable, but much benefit will ensue by changing the direction of the toe. This is accomplished by wearing properly shaped boots, made with the inside of the sole straight from the heel to the toe. The treatment locally is the same as that recommended for corns. When there is a tendency to erysipelas, *Ruta*. will be found very serviceable. When matter forms, *Hepar*, followed by *Sil.*, will give satisfactory results. *Ver. vir.*, applied by means of a pledget gives rapid and lasting relief.

Keloid is closely allied to the warty structures already spoken of, and consists of a pinkish-white, fibro-vascular tissue, which is occasionally met with in old cicatrices, caused by a burn, as an outgrowth of that process, and not unfrequently recurs after removal. Alibert, who first described this affection, classified it among the dermatæ. Addison recognizes two varieties of keloid, the one occurring in the integument without any recognizable cause, and the other as the result of previous lesion. It has occurred after excision of a fatty tumor, (Hamilton) and is more frequently met with in the black than in the white race. It is round, spheroidal and cylindrical in form; possesses hard or slightly elastic, smooth elevations, and extends from a common centre

outwards and from its fanciful resemblance to the crab, is called keloid. It is accompanied by a burning, striking pain with an intolerable itching. Its progress is slow but continuous and seldom results in ulceration, and a peculiarity of the growth is that it recurs after removal.

Treatment.—The treatment of this affection so far has not met with any marked success medically or surgically. Excision has been employed in some cases, both with the knife and the *ecraseur*, but the growth as a rule has returned. For the itching and burning *Ars.* seems an appropriate remedy.

Carcinoma is the malignant type of tumor; implicates the system, affects the neighboring structures, and is prone to return after removal either at its original site or in some remote part of the body. The primary origin of cancer lies in a peculiar deviation from the normal standard of nutrition, which acts as a predisposition thereto; or it may depend upon a hereditary predisposition not necessarily allied to *impaired health*. This does not seem to act as a principal factor in its development, for we frequently see tumors in unhealthy persons which do not show the slightest evidence of degeneration. The distinction between true carcinoma, and the benign tumor in reference to auto-infection is this, in cancer the adjacent structures are *infiltrated* with the cancerous or neoplastic product, while in the benign tumor the surrounding tissues are *pushed aside*, producing a separation of tissue. Another peculiarity of cancer is the glandular enlargements that are dependent upon its growth. Suspicion rests upon every tumor that is accompanied by lymphatic or glandular enlargements. See differentiation of malignant and benign tumors, page 115.

Etiology.—Cancerous growths differ from all normal structures. It is a neoplastic product, has an organization peculiar to itself and never attacks a truly healthy system. Its cells are seen compacted together without any intercellular substance, and lying in the spaces of a fibrous stroma. They are heterologous and present in a high degree clinical marks of malignancy; are more frequent in women than in men.

Histological elements.—The cells that are met with in cancer

vary greatly, there being in fact *no distinct typical cancer cell*, these cells being varieties of epithelium, both in their stage of development as well as in the process of formation; the *multiplicity*, the *proliferation*, the *heterology* of the cells, is the strongest evidence of the neoplasm. Thus the cells may be large or small, round or oval, regular or irregular, pysiform or caudate, anything in fact except a harmonious cell; development; between the stroma is found a peculiar milky-white, or glairy fluid called "cancer juice," more or less discolored by being tainted with disorganized products. These cells are often loaded with oil globules and granular matter, and they serve as a warning to the surgeon that he is cutting *into* the tumor and not *around* it. Sometimes these cancer cells undergo a fatty degeneration termed "saponification." There are three leading types or varieties of cancer, viz: *scirrhus*, *encephaloid* and *colloid*.

Scirrhus or hard cancer is a disease of adult life, and is the most frequent form of the disease; more common in women than in men and it attacks the mamma and uterus. It begins as a small, hard lump which slowly and persistently increases in size; it draws to itself and appropriates, by a kind of concentric attraction, the surrounding structures.

Diagnosis.—The skin becomes puckered, the nipple retracted, and the tumor unlike the benign form, ceases to glide over the deep-lying tissues, holding all the structures within its grasp by adhesions and inflammatory implications. The pain is of a burning, shooting, darting character; soon the skin becomes involved in front, below, and adjacent thereto, the muscles become implicated by the inflamed and cancerous connective tissue; the neighboring lymphatic glands are enlarged, which are connected with the growth by a line of swollen absorbents; gradually the skin or membrane covering the tumor, becomes discolored and assumes a dark or purplish color, and finally breaks and ulcerates, followed by an offensive discharge; the pain increases in severity, the patient shows signs of suffering, emaciates, becomes dispirited and assumes a peculiar leaden and sallow complexion. Soon, secondary deposits of a malignant type form in other parts of the body, probably in the uterus, lungs, or liver, and the patient gradually sinks away, worn out

by incessant pain and continued implications and profuse discharges.

Pathology.—A section of the scirrhus tumor, presents a dense and tough structure, creaking as the knife passes through, the cut surfaces giving a white, glistening, satiny appearance, intersected by bands of fibrous tissue.

Histological elements.—There is seen an abundant fibrous



stroma containing cells of epithelium, and scraping the cut surface, there exudes a peculiar fluid called "cancer juice," that contains the cells which are indicative of cancer. This tumor is not of

large growth; after it has attained its full development, there is a shrinking and puckering of all the tissues implicated, and a growing hardness. In doubtful cases my plan is to use the exploring needle or an aspirator and examine its histological elements.

Encephaloid, or soft cancer, is the most acute and malignant variety of this disease. It differs from scirrhus both in the rapidity of its growth and the scantiness of its fibrous stroma. It attacks organs often unknown to scirrhus; grows rapidly and attains great size; the structures that seem most inviting to its growth are the testicles, bones, and muscles of the extremities, cavities of the face, breast and abdomen. They are exceedingly vascular, and throw out a prolific fungus which is subject to constantly recurring hemorrhages, producing cachexy and death. They occur at all periods of life; in the young as well as in the aged. Their type of malignancy is more intense, their cachexy more early developed, and their termination more speedily fatal than in the scirrhus form.

Diagnosis.—It begins as a soft, smooth, lobulated tumor, slightly elastic to the touch, and may be mistaken for fluid. It grows quite rapidly, pushing towards the surface. The overlying skin shows the veins skirting it dilated, with more or less œdema, which soon ulcerates and forms the large fungoid protrusions hitherto mentioned from which there escapes an offensive dis-

charge. In very vascular tumors, oftentimes a decided pulsation may be felt and a bruit detected by the aid of the stethoscope.

Histological elements.—To the unaided vision it resembles brain substance, from which it derives its name. It possesses but little fibrous tissue, but an abundance of cancer juice. Its cells under the microscope are seen to be irregular in outline, imperfectly formed, loosely connected and disposed to fatty degeneration. It disseminates itself rapidly and soon leads to a fatal termination.

Colloid or Gelatiniform Cancer.—Synonyms, *alvælar* or *gum cancer*. This form of cancer occurs more frequently in men than in woman; appears in middle life, and is rarer than any of the preceding varieties. Its chief points of attack are the mamma, stomach, rectum, bones, ovaries, and intestines, and it is sometimes found blended with other varieties of the disease; recurs after removal, and is frequently hereditary; its growth and multiplication is simply enormous. Prof. Helmuth has "removed two pailfuls from one patient, and in a second case * * * about sixteen quarts."

Histological elements.—It consists of a peculiar arrangement of the fibres of its stroma, in large circular outlines, filled up with semi-transparent mucoid substance, in which are seen large cells of various sizes and shapes, with rounded, flat or oval nuclei, hence its name, "*alvælar cancer*." Lying in the interstices of these fibres, is a transparent jelly-like substance, resembling boiled starch, ordinarily of a slight bluish color, but sometimes of an opaque and brown appearance, resembling decomposed tuberculous matter.

It is said of this variety of cancer that it is the connecting link between carcinoma and cystic diseases of the ovary.

Melanosis.—When these two latter varieties of cancer are distinguished by the presence of *pigmentary* matter, writers have classified them as a distinct variety under the name of melanosis or *black cancer*.

Treatment.—All allopathic authorities, with a very few exceptions, speak of cancer as an incurable disease by internal remedies, their treatment resolving itself into "the improvement of the general health and the nutrition of the body by hygienic

means, good nutritious diet and tonic medicines." (Bryant). Constitutional treatment, say other of their authorities, "has no power either to disperse the tumor or to arrest its growth." Their only hope lies in early and complete removal. This is the unsatisfactory condition of the allopathic school in the treatment of cancer, and by the scalpel, it is claimed that "it is seldom indeed that a cancer can be said to be cured by extirpation." (Clarke.)

The homœopathic literature on the contrary is full of brilliant cures effected by medication. Drs. Helmuth, Bayes, Marshall, McLimont, Pease and others adduce cases without number successfully treated and cured by internal remedies, and I can testify to the success attending internal medication in scores of cases. The most important remedies are the following: *Apis*, *Asa.*, *Aurum met.*, *Merc.*, *Ars.*, *Ars. jod.*, *Bell.*, *Brom.*, *Bry.*, *Clem.*, *Calc. c.*, *Carb. an.*, *Carbol. ac.*, *Carb. veg.*, *Chim.*, *Cedron.*, *Con.*, *Cundur.*, *Hyd.*, *Hydrocot.*, *Galium ap.*, *Kali*, *Lach.*, *Phy.*, *Phos.*, *Merc. bi. jod.*, *Nit. ac.*, *Lapis alb.*, *Mur. ac.*, *Sil.*, *Thuja*, and *Sanguin.*

The Local Treatment of Enucleation has found many friends as an external expedient. Drs. Marston and McLimont, Pattison and others, have removed cancerous tumors by pastes applied locally, consisting of arsenic and chloride of zinc, or a paste composed of "powdered hydrastis root, chloride of zinc, flour and water of equal parts," to which may be added one part of stramonium extract if desired. Injections of the first dilution of acetic acid, topical applications of bromine, carbolic acid, congelation, compression, electrolysis, the ecraseur and ligature have their especial advocates.

Excision.—Far above all local expedients for its removal is the knife under a suitable anæsthetic, if employed before *fixation* of the tumor and previous to actual *systemic* contamination. Here is where the homœopathic surgeon excels his allopathic peer; by removing the disease locally, preventing increase and multiplication of growth, by ridding the system of the proliferating germs and removing the local fermenting and disseminating growth, while the remedies he employs internally are curing the causation of the affection constitutionally. The success attend-

ing well directed homœopathic medication far exceeds the hygienic and general constitutional treatment of the old school alone. The treatment of the homœopathic school certainly exercises a more beneficent influence over this terrible disease than any other system of medicine.

Dr. Marston in a recent work recommends the use of arsenic as a topical application. His formula is two drachms of arsenious acid, to one drachm of mucilage of gum acacia well mixed into a thick paste. Prof. Helmuth says he has used this application "with success in the treatment of epithelioma."

Dr. Michel's famous preparation, for which Dr. Bell paid him 25,000 francs, and subsequently made it public, is the following. viz.: Asbestos, as soft and free from grit as possible, is rubbed between the hands to the finest powder, and then mixed thoroughly with three times its own weight of strong Sulph. acid with a silver spatula till a mass is formed. It is then applied to the cancerous growth, taking care to protect the healthy parts by a zone of collodion and pads of linen. Rapid destruction follows with but little pain. All oozing is to be removed, and after 12 or 14 hours remove the first, and apply a second lotion of smaller size and let it remain for 12 hours, and the process is completed; and the parts are allowed to heal. Dr. Bell favors this process, and thinks it possesses considerable advantages over extirpation by the knife. The fetor arising from ulcerating cancerous tumors may be greatly diminished by solutions of *Carbolic acid*, *Condy's disinfecting fluid*, and poultices of powdered *charcoal* or *yeast*, *Labarraque's solution*, and *Chlorine*, *Chlorate of potash*, and *Glycerole of Tannic*, or of *Carbolic acid*. I have used *Galium ap.* with much success in cancer of the uterus, and those occurring inside of the mouth. *Bromine*, *Ozone*, *Iodine*, *Nitrate of Lead*, and *Permanganate of Potash* are valuable adjuncts for the comfort of the patient, and the relief of suffering.

Constitutional treatment.—The treatment of cancer, to be efficient, should be commenced as early as possible, and the use of homœopathic therapeutics have done much towards robbing this dread malady of the suffering and loathsomeness heretofore attending its existence. Helmuth cogently remarks "that there are certain medicines employed homœopathically that can arrest

cancerous formations," and the records of our periodicals report very many cases of this disease cured by the properly selected similitum. Our remedies exercise great curative influence over certain forms of cancer, and in their early stages of development have effected remarkable success. In the severe types of the malady and in the later periods of growth, they mitigate the sufferings attendant upon the disease, prolonging life very considerably, and smoothing the otherwise miserable pathway to the grave. The remedies that have produced the most valuable results in my hands are: *Hyd.*, *Ars.*, *Bell.*, *Con.*, *Phy.*, *Carbo. an.*, *Galium.*, *Clem.*, *Lach.*, *Phos.*, *Lapis alb.*, etc.

Hydrastis Canadensis.—This remedy has been quite extensively used by the practitioners of our school, who gained their knowledge of its medical virtues from "eclectic" sources. "It is this medicine," say Drs. Marston and McLimont, "that we chiefly rely upon in our treatment of cancer; usually putting our patients under a course of it for a month or so before commencing the enucleation of the mass. Our doses vary from one to two drops of the pure tincture to half a drop of the sixth dilution, the lower forms being used chiefly in those cases in which the cachectic condition is fully marked; and we must confess that we know of no medicine which has caused so great an improvement in the general health of our cancer patients. We continue the medicine, unless intercurrent symptoms forbid, throughout the whole course of treatment and for some weeks after its completion." Dr. Pattison, of England, has used this remedy in the treatment of cancerous diseases with exceedingly good results. My observations in regard to its sphere of action correspond with those of Dr. Bayer, who says "my experience has thus led me to infer that the remedial sphere of hydrastis is confined to the arrest and removal of *scirrhus* in its early stage, and chiefly when its situation is in a gland or in the immediate vicinity of a gland." Dr. Ruddock testifies to its undoubted usefulness "when the cancer involves the glands or the uterus."

Phytolacca decandra.—This remedy has been brought prominently before the profession by Dr. Hale,* who has "found it fully equal to our best anti-psorics in the treatment of old ulcers, even

* Hale's New Remedies—Phytolacca Decandra, p. 771.

of a syphilitic nature;" and he claims it to be a congener of *sili-cca*, *lachesis*, *arsenicum*, *kali bichrom.* and *sulphur*. *Phytolaccin* has been much employed in the treatment of carcinomatous affections, and its beneficial effects are most apparent in cases of open cancer. It has been found quite effectual in lupus, applied either in the form of a paste with water, or in strong alcoholic tincture when used in the early stages. An inspissated juice of the leaves, or the dry phytolaccin has been recommended in indolent ulcers and as a remedy in cancer."

"*Carbo animal.*—This appears to be especially suited to those cases in which the ulcerative process is indolent, while the vital powers are greatly depressed. In the case of a lady suffering from cancer of the womb, in whom this condition existed, and who was under our care for several months preceding her death, great constitutional benefit was derived from this medicine administered in the third trituration. She rallied from a condition of almost death-like torpor, and we have no doubt that from its use some months were added to her life."

Arsenicum.—On the other hand though not so closely identifying itself with the earlier physical signs of the disease, is so strikingly pointed at by the cachexy which prevails in the advanced stages, that we are ready to anticipate for this remedy even a greater value than experience unfortunately proves it to possess, when given in crude doses. Nevertheless, we do attach great importance to it; but our opinion leads us to administer it in the medium potencies to ensure the full benefit of the remedy. In the *earlier* stages something may be done to correct the dynamic condition upon which the predisposition to the disease depends, and then given in the higher potencies we have found the most brilliant results; but as a means of combatting the cancerous blood poison, we believe that the medium and even lower potencies effect the most benefit. * Dr. Ruddock remarks: "We can testify to the priceless worth of this remedy in different dilutions, perseveringly administered; it has arrested the growth and gradually dispersed cancerous enlargements. * *

* The value of the drug being "often expressed by the restoration and maintenance of the patient's general health." Hel-

* Text-Book of Medical and Surgical Principles.

muth says that the cases which in his experience have longest resisted the disease, were invariably those in which medical treatment was persevered with, and in which the chief remedy was *Ars. alb.* The power of *Arsenic*, as a prophylactic after operation, is highly lauded by Alter and others.

Conium.—"The specific relationship of this remedy, homœopathically considered, to old indurations," say Drs. Marston and Maclimont, "especially when resulting from a blow, and still more when occurring in old people, will fully account for the fact of its having removed such indurations bearing a close resemblance to scirrhus tumors, and greatly relieving truly cancerous growths. I have had many opportunities of administering this remedy in various potencies to patients suffering with cancer, attended with very severe pains, and have uniformly found relief result; and this result has been gained quite as readily with the medium potencies as with material doses. Dr. Ruddock states that it is chiefly beneficial in cancer of the breast, and a lotion of the remedy is very soothing to the pain in open cancers. Dr. Hughes says that *Conium* "which acts so powerfully upon the breast has not unfrequently arrested the progress of mammary scirrhus."

Carbo. an.—This remedy appears to be especially suited to those cases in which the ulcerative process seems indolent, with great depression of the vital powers. In the case of a lady suffering from cancer of the womb, in whom the above condition existed, I found great relief from the use of this medicine in the medium potencies, and in an attack of extreme and almost fatal depression, she rallied, and I have no doubt that from its use, several months were added to her life. The ground of its virtues, says Hughes, is the same as that of *Hydrast*, which, from its specific action upon the glands, "enables these active eliminants to cast out the morbid matter in its early stage." Raue recommends it in scirrhus tumors that are hard and uneven, the skin loose with a bluish-red appearance, with burning pains and drawing upwards to the axilla, oppression of the chest, with despondency.

Galium aperin.—This remedy has enjoyed quite a reputation in the cure of a hard, firm, circumscribed tumor, nodulated and uneven, and presenting the appearance and feel of a scirrhus

formation. The galium was administered in watery extract, two ounces of the extract having been dissolved in a half pint of water, of which the patient took one and a half drams twice a day in a wine-glass full of water. The mixture was also applied warm to the tongue in which the tumor was imbedded, several times a day, retaining it a few minutes during each application. In one month she completely recovered, all the evidences of cancer passed away, the pain diminished and the tongue returned to its normal size and condition. I have used this remedy very much in my practice and have found great good to result from both its internal and local administration. In a very severe case of carcinoma of the uterus I certainly prolonged the life of the patient several months and palliated all the more painful conditions. Drs. Winn and Ogle contend that "it has the power of correcting the peculiar dyscrasia of the blood." It favors the production of healthy granulations and modifies to say the least the cancerous cachexy of the system.

Epitome of treatment.—*Hydrast. can.* cured a case of encephaloid of the eye. Reported by Dr. Hartung.

Kali hydrocyanate in 1-100 of a grain, a dose repeated every fourth day cured a cancerous ulcer. Reported by Dr. Hughes.

Bell., etc.—A most interesting case of fungus hæmatodes oculi was completely cured by *Lyc.*, *Sepia.* and *Sil.* Reported by Stapf.

Bell., *Nux.*, *Euphras.* and *Ac.* completed the cure of a similar case to the one above, in four weeks. Reported by Muhlenbein.

Bell., *Bry.*, *Phos.*, *Hepar.* and *Ars.*, given according to the indications, cured a case of encephaloid of the breast after several months medication. Reported by Dr. Von Vieternghoff.

Aurum. has proved of great value in cancerous affections of the bones, especially those of the face.

Kali brom. in cancer of the brain or when the nerves have become implicated so far as to produce convulsions.

Hydrocotyle a. has been of special benefit in uterine cancers.

Sanguinaria c.—Dr. Craig extols this remedy highly for its beneficial effects in preventing the return of the disease after excision. It has been employed locally in the escharotic treatment.

Carbolic ac. has cured hæmatoid cancer on the right cheek. It is of great value in ridding the system of the cancerous poison after operation. Drs. Pease, J. C. Morgan and Beebe, highly laud its curative action.

Chimaphila umb.—A cure of ulcerated scirrhus is reported as having been cured with this remedy by Dr. E. S. Coburn.

Cedron has been used successfully as palliative to the severe suffering and lancinating pains in the advanced stages of cancer. Dr. E. M. Kellogg, of New York, testifies to its efficiency. He gave it in drop doses of tincture, frequently repeated.

Lapis. alb.—This remedy, introduced to the profession by Dr. Grauvogl, is highly recommended by him in the treatment of all affections of the glands and lymphatics, unbroken carcinoma, and in all scrofulous affections, sores and abscesses. He reports five cases of uterine carcinoma cured by it. As a condition of its great value in these diseases, he remarks: "An indispensable condition of success in these forms of disease, consists in that they develop in constitutions that have not suffered previously from intermittents or other malarious affections, as otherwise *Lapis albus* not only aggravates everything but even engenders relapses of intermittents and other malarious affections." He adds: "I have not yet seen a cancer apertus cured by this remedy."

Magnesia mur. has removed scirrhus induration of the uterus.

Phosph. has effected good results in excessively painful and hard indurations in mammæ, unaccompanied by inflammation. It has also proved beneficial in Fungus hæmatodes in the thigh, painful and accompanied with continued discharges of venous blood.

Arsenic iod.—This remedy has been only *partially* proved, and from the symptoms it has caused and from the clinical results which have been obtained by its use, is shown to be a remedy of great curative power in cancer.

Ferrum phos.—Prof. Helmuth recommends the employment of this remedy in open cancer; he says it has produced "the most happy results;" by its administration the pain is lessened and the ulcer takes on a more healthy appearance.

Calc. oxal. has relieved the terrible pains in open cancers.

Lach. in scirrhus mammæ when the pains were lancinating

and produced by pressure, with a constant painful feeling and lameness in left shoulder and arm, aggravated by use. In open cancer, of dark bluish-red appearance, with dark streaks of coagulated and decomposed blood.

The following remedies may be compared: *Apis.*, *Asterias rub.*, *Badiaga.*, *Clem.*, *Crot.*, *Graph.*, *Lyc.*, *Aurum.*, *Kreis.*, *Nat. c.*, *Sil.*, *Sepia.*, *Thuja.* and *Sulph.*

PART III.

INJURIES AND DISEASES OF NERVES, VEINS AND BONES.

CHAPTER I.

WOUNDS AND DISEASES OF NERVES.

Wounds of Nerves.—*Complete* division of a nerve produces paralysis and loss of sensibility in the parts to which it is distributed, which, however, are regained as soon as the nerve unites; this union may occur in a greater or less time, according to the conditions surrounding the division. “Sometimes, however, the divided ends instead of uniting, shrink and become bulbous, as they do in a stump after amputation.”

Partial division of a nerve by cuts, stabs, or in the performance of an operation, leaving some fibres on the stretch, produces very unpleasant results, such as severe pain in the part, recurring in paroxysms and shooting along the course of the nerve; violent spasms, or paralysis of the limb; epileptic convulsions and disorders of digestion. If the nerve is merely *pricked*, the symptoms are less severe than when it is partially divided; there is sharp and darting pains in the part affected, with tingling and numbness below the part injured. If a nerve has been bruised, compressed or stretched, or if it has been divided and its extremity has become squeezed in a cicatrix, nearly the same symptoms will occur as when it is partially divided. This condition of the nerve sometimes follows amputation, and with it there is

excruciating pain, spasms, and retraction of the muscles of the stump, causing a conical shape. Sometime after the division of a nerve and the severed ends being separated, the cut extremities connect by a neuroma or button-like tumor, causing intolerable pain and great suffering, for which a redivision has been advised, or indeed an amputation may be the only means of permanent relief.

Concussion of Nerves.—Prof. Willard Parker, of New York, describes a peculiar kind of nervous disorder which he terms “concussion of the nerves,” following severe injuries, railroad and other accidents. The first symptoms after the injury is paralysis with little or no pain supervening; the patient is left in a weak and miserable condition of health for a long time thereafter.

Treatment.—If these symptoms come on *immediately* after a wound, so that it is probably caused by the partial division of a nerve, an incision should be made down to the nerve and complete its division. If they come on during the cicatrization of a wound, the cicatrix should be dissected out and the parts be permitted to heal anew. It sometimes happens, however, that these symptoms are not removed even when an operation has been performed as previously advised. It becomes necessary, thereupon, to select a suitable remedy which will in a large majority of cases effect the desired relief. Among the remedies of value in this troublesome condition, the following seem the best indicated; *Acon.*, *Bell.*, *Hyper.*, *Coloc.*, *Allium cepa.*, *Ignatia*, *Nux vom.*, *Moschus.*, *Camph.*, *Verat. alb.*, *Calab. bean*, *Secale.*, *Coccul.*, *Hyos.*, and *Zinc*, *Aranea di.*, *Lach.*, *Spigel.*, *Caust.* and *Clem.*

Epitome of treatment.—*Aconite.*—When the pains are severe, recur in paroxysms, are worse at night.

Bellad. for acute, throbbing intermittent pains and in plethoric persons.

Colocynth. for severe paroxysms of cutting pains, with sudden, violent lancinations extending a considerable distance from the part injured.

Ignatia for pains and numbness, with tendency to spasmodic jerkings; worse at night so as to prevent sleep, with sinking at the pit of the stomach; spinal irritation rather than cerebral;

hyperæsthesia; restlessness, followed by chilliness; emotional sensitiveness; spasms and twitchings.

Spigelia for jerking and tearing pains aggravated by movement.

Nux vom.—Numbness and tingling in the parts with tendency to paralysis; violent pains in the back with gastric derangement.

Moschus. for a sensation of coldness along the spine; excessive nervousness; a feeling of numbness of the injured parts; paralysis threatening.

Camph. for great concussion of the nerves with threatening tetanus; symptoms of shock and coldness prostration and anxiety, followed by vomiting, purging and cramps.

Verat alb. when after injury the pains are maddening, attended with cold sweat, constriction of the larynx, and stiffness of the parts with tremblings.

Hyo., *Sec.*, *Coccul.*, *Calab. bean* *Tabacum* and *Zinc* may be employed when their indications are called for.

Electricity.—Good results accompany the Faradic or voltaic current. Both electrodes should be firmly and continuously pressed upon the skin, one over the origin of the nerve, the other over the focus of the pain so as to include the circuit of the affected nerves. I have used this agent with decided benefit in such cases.

* **Nerve Stretching.**—"This new and peculiar method of treating certain affections of the nervous system, as tetanus, neuralgia, epilepsy, was introduced to the profession in 1872. Since then many experiments have been made, some of them being remarkably successful. Dr. Paul Vogt, Professor of Surgery in the University of Griesswald, has written a systematic treatise upon the subject, in which he gives the experiences of Billroth, Von Nussbaum, Palmbau, Peterson and himself. These surgeons performed the varied operations for different nerve diseases. Thus, Billroth laid bare and stretched the sciatic for spasm of the leg. Von Nussbaum, for intense neuralgia, with spasmodic contraction and loss of sensation in the muscles of the arm, exposed and stretched the brachial plexus. Others have cured paralysis, reflex epilepsy, neuralgia and traumatic tetanus. In the last named disease the brachial plexus was stretched, the injury

* Helmuth's System of Surgery, p. 403.

being at the hand, in one instance; in another, the tibial was exposed and stretched, the injury being at the foot. In both cases a cure was effected."

In summing up the evidence of results following this novel and peculiar method, Callender writes:

"I hope this note may lead to a further trial of this method of treatment. The operation is not a severe one. The nerve is exposed and stretched, when freed from its surroundings, by traction with an ordinary vulsellum, from its central connections. No harm is likely to be sustained as a consequence. There is now abundant evidence in the cases reported by Billroth, Nassbaum and myself, of the tolerance with which nerves submit to forcible stretching, so far as the after performance of their functions is concerned. In view of the unsatisfactory results of the treatment of traumatic tetanus, as at present conducted, there is full justification for the performance of the operation, as, at least, a last resource, although I should myself advocate its trial, as in the case under the care of M. Verneuil, as soon as the signs of the disease are distinctly recognized."

- The operation is described as follows: "The actual accomplishment of such an operation appears very simple, and yet from a study of all the published details, it is clear that final success depends very much on attention to small matters which sometimes are apt to be forgotten. The operation may be divided into three stages: 1st. Laying bare the nerve within its sheath. 2d. Drawing forwards and stretching the nerve. 3d. Reposition and application of dressings. The first act of the operation is a very important one. In the case of traumatic tetanus, before reported, some important changes were found, not only in the nerve itself, but in the surroundings of its sheath. In all such cases it is recommended to free the nerve sheath on all sides as far as one can reach; stitching then accomplishes the rest. The second act of the operation may be performed either manually or instrumentally. For the drawing forward of the nerve one naturally uses a blunt hook, or an elevator; or for a small nerve an ordinary aneurism needle. The actual stretching is best accomplished by passing the forefinger beneath the nerve. By this means we can secure as much force as is necessary, provided the

limb is placed in a suitable position. The use of the finger is better than a hook, as there is no danger of injuring locally the nerve itself. In the case of small nerves, a thin elastic band may be substituted. In this way an *elastic traction* can be used without the risk of locally injuring the nerve. The last part of the operation is the dressing. If the stretched nerve does not recede when the limb is placed in its normal position, the operator must gently tuck the nerve into its bed, then place a small bit of drainage tube in at the bottom of the wound and close by sutures. Lister's dressing and spray is recommended in the cases, as rapid union and a small scar must be tried for." Prof. Helmuth has successfully stretched the sciatic five times for Sciatica and reflex convulsions; the ulna once, and the inferior dental once.

Tooth wounds.—Wounds inflicted by the bite of man or the inferior animals, are always matters of grave import, though the man or animal be not mad. The bite of man is always poisonous, and the wounds made are most troublesome to heal, and oftentimes require amputation as a last resort when situated on the fingers. Death has resulted from bites of the nose and ear, when done by temporarily "rabid" human beings.

Treatment.—First thoroughly cleanse the parts bitten and apply a solution of *Carbolic acid*. When symptoms of erysipelas set in, *Ac.*, *Apis.*, *Bell.*, *Canth.*, *Lach.*, *Crotalus*, *Ars.*, and *Rhus*. are the principal remedies to be employed. *Carbonate of Potash* solutions relieve the pain in the part. If formation of pus threatens, *Hepar.* and *Merc.* are valuable. Evacuate abscesses whenever they form, and treat on the general principle of poisoned wounds.

CHAPTER II

TETANUS.

Tetanus is a nervous disorder, characterized by painful and continued contraction of the muscles, following an injury. It often supervenes on punctured lacerated, and other wounds implica-

ting nerves and fasciæ. When arising from injury, it is known as Traumatic Tetanus. When dependent on constitutional disturbance, it is called Idiopathic.

Tetanus is often developed from very slight causes: from laceration of a small nervous branch; from puncture, as with a fork or nail, or from a bruise; but is more likely to follow lacerated and punctured wounds than those which are clean-cut, still it may occur as a result of surgical operations, however skillfully performed. It is especially apt to occur in feeble and debilitated constitutions, and hence may result from any cause having a tendency to impair the vigor of the nervous system. Wounds of the hands and feet are apt to give rise to it.

There are several varieties of this affection; when the spasm attacks the muscles about the neck, face, and jaw, it receives the name of Trismus or Lockjaw; if the patient is bent backward by contraction of the spinal muscles and the flexors of the lower extremities, it is called Opisthotonos; when the body is bent forward, Emprosthotonos; and when sidewise, Pleurosthotonos.

Symptoms.—The symptoms first observed are an uneasiness and stiffness in the muscles about the temples, jaw, and neck, the patient being unable to open his mouth widely. This is succeeded by a peculiar expression of countenance; the features are fixed or convulsed, giving the countenance an aspect of pain and anguish, *risus sardonicus*. The spasms are never noticed in the parts injured. The involuntary muscles next become affected, producing difficulty of breathing, with spasmodic pain in the region of the diaphragm and stomach; the abdomen becomes violently contracted and knotty, which is succeeded by constipation and retention of urine. The intellectual faculties remain undisturbed; the pulse natural or slightly increased in frequency, which is due to muscular contractions rather than any febrile action. The symptoms become more and more violent as the disease continues, death resulting from exhaustion, consequent on the frequency of the tetanic spasms, in from two to fourteen days.

The only affections likely to be confounded with tetanus are hydrophobia and myelitis. The spasms peculiar to tetanus are continuous, in hydrophobia they are intermittent, and confined to the region of the throat; in tetanus, also, the mind remains

clear, while hydrophobia is attended by more or less delirium.

In myelitis there is high febrile reaction, with a continuous, burning pain in the back, often accompanied by paraplegia—conditions which are not met with in tetanus.

Treatment.—To remove, so far as possible, any or all causes operating in inducing the disease, or which may continue to keep up a source of irritation after it has been developed. The causes may be the presence of irritating spiculæ of bone, of rust, dirt, or any foreign matters in contact with the nerves and tendons. It is true that when once tetanic excitement has been set up in the spinal cord, it has a tendency to continue, and can not be removed by mere abstraction or cessation of the local irritation that gave rise to it in the first instance. Treatment will succeed best after all local irritation has been removed; for so long as this continues to keep up the centric nervous disturbance, no general means can be expected to succeed, as they will not only have to combat already existing diseases, but also to overcome the continuous excitement maintained by the local disturbance. The *division of an injured nerve* that has been punctured or lacerated has occasionally proved successful. When there is reason to suspect a foreign body in a cicatrized wound, after tetanic symptoms have set in, it is best to cut down upon and extract, if possible, the offending material. In a case of tetanus following injury of the supra-orbital nerve, Larrey divided it entirely, and cured his patient. In another case following a punctured wound caused by a rusty nail entering the sole of the foot, a complete cure was made by dividing the posterior tibial nerve. In those cases in which no special nerve appears to have been injured, Liston recommends making a V-shaped incision down to the bone and above the part, insulating it completely. *Amputation* of the wounded portion has been performed with an occasional good result; still it is to be hoped that few surgeons can be found who are so utterly devoid of all surgical judgment, not to say human sympathy and feeling, as to remove a leg or an arm on the approach of tetanus, and certainly none after the disease has been fully established.

*Hypodermic Injections.**—“ Among the recent suggestions for

*Smith's Surgery, vol. i, p. 478.

the relief of tetanus is that of Pescheux, who injects ten or twelve drops of a solution of atropia into the areolar tissue of the neck, near its median line; the symptoms of atropia poisoning soon became well marked. When these subsided, the tetanic symptoms had almost disappeared, deglutition becoming easy, and the muscular rigidity much lessened. A second injection in the evening dissipated what remained of the tetanic symptoms."

In a case which came under the observation of Prof. Helmuth, the calabar bean was used hypodermically with amelioration of the spasms of the muscles of deglutition. Eight drops of the following mixture were used every three hours: *R.* Alcoholic extract calabar bean, (English) grs. vii. Alcohol dilute ζ i. M. M. Demarquay reports two cases of traumatic tetanus treated by intra-muscular injections of morphine.

Ice.—Dr. Carpenter, of New York, reports two cases of traumatic tetanus successfully treated by the application of ice to the head and the whole length of the spinal column. The ice was applied from ten to thirty minutes each time, with intervals of from two to eight hours, followed by immediate relief, the spasms disappearing in twenty minutes from application.

Chloroform.—Dr. Henkle, of Lancaster County, Pa., reports a case of tetanus cured by the application of chloroform along the spine and to the epigastrium, renewing the application every hour or two, according to the urgency of the symptoms.

In the *constitutional treatment* of the disease, the remedies best adapted to meet the various indications as they are presented in the disease, are: *Acon.*, *Angust.*, *Arn.*, *Acid hyd.*, *Ars.*, *Bell.*, *Camph.*, *Cic. vir.*, *Curare.*, *Con. mac.*, *Cup. met.*, *Hyos.*, *Ignat.*, *Ipec.*, *Kali brom.*, *Lach.*, *Nux vom.*, *Opium*, *Rhus tox.*, *Secale cor.*, *Stram.*, *Verat.*

Special Indications.—**Aconite.**—When there is frequent alternation of redness and paleness of the face and distortion of the eyes; also in opisthotonos, when the upper and lower limbs are drawn in, the hand and thumb being clinched, the eyes drawn upward, and the face covered with a cold sweat; hot and dry skin over the body; full, strong pulse, with twichings in the thighs, rigidity of the muscles of the neck and jaws.

Arnica is useful in cases of tetanus arising from wounds, though it has proved most beneficial where it has been employed after the use of some other medicine. It should also be applied to the wounded surface externally, as well as administered internally; or it may be given from the first when there are short, panting breathing, jerks and shocks as it produced by electricity, tremor of the limbs, etc.

Acid hydrocyanic.—With lock-jaw, bloating of the face and neck, protrusion and glistening of the eyes, immobility and dilatation of the pupils, bluish-red color of the face, frequent pulse, rigidity of the limbs, the trunk being bent either forward or backward, the convulsions depending upon a congested state of the cerebral vessels.

Belladonna.—When the convulsions are partial; shivering and trembling of the

limbs; spasmodic, constrictive sensations in the epigastrium, accompanied with shortness of breath; anxious and distressing feeling in the chest; drawing and stiffness in the neck and spine; spasmodic contractions in the tongue; vertigo and yawning; painful stiffness of the muscles of mastication; contortion of the eyes; paroxysms of stiffness and immobility of the limbs, aggravated by the least contact; insensibility and rattling breathing; spasmodic inclination of the head and body to the left side; paroxysms of rigidity and immobility of all the limbs or of a single limb, sometimes accompanied with insensibility, distension of the cutaneous veins, red and puffed face, full and quick pulse, and profuse sweat; trismus, with painful constriction and narrowing of the fauces; oppression of the chest; labored, irregular breathing; delirium and stupor.

Camphor may be used for tetanic spasms; loss of consciousness; limbs fixed and extended; head drawn to one side; lower jaw rigid and gaping; lips drawn inward, unceasing distortion of the muscles of the face; coldness over the whole body; oppressed, anxious, panting breathing.

Cicuta virosa.—In *trismus*, when there is accompanying tetanic rigidity; in *opisthotonos*, as well as *emprosthotonos*, where there is leaden paleness of the face, with coldness, grinding of the teeth, foaming at the mouth, and inability to swallow; tetanic spasms of the cervical muscles; cramps and stiffness of the whole body, or with curvature of the limbs that cannot be straightened. In the convulsions to which strychnine is homœopathic, consciousness is preserved to the last, whereas, the absence of consciousness is characteristic of the *cicuta* convulsions. It affects the upper portion of the cord, and has proved most serviceable in those cases which have originated from immediate irritation of the brain, from injuries or other derangement of the cerebral substance.

Hyosciamus.—In convulsions of the upper and lower extremities, with contraction of the extremities and tossing of the body upward; the eyes are staring and distorted, with spasmodic closure of lids, bluish face, clenching of the teeth; foaming at the mouth, constriction of the throat, drawing of the neck to one side, with rigidity of the hands, contortions and spasmodic curvings of the body. The symptoms show that the cerebro-spinal axis is disturbed to its very center.

Nux vomica is indicated in tetanic convulsions, with violent concussion and violent spasms of the whole body; extreme rigidity of the limbs; tetanic convulsions, with frequent and fluttering pulse during the attack, and general sweat; frightful spasms of the whole body, with *opisthotonos*, distorted eyes, drawing in of the muscles of the chest; spasms in muscles of mastication; *opisthotonos* with feeble beating of the heart, pulse small and scarcely perceptible; spasms preceded by violent chills and shudderings, with fornications, and painful sensations resembling the passage of electric sparks. Consciousness does not seem to be affected. In idiopathic tetanus where the spasm has its origin or takes its starting-point from the spinal cord. In persons who have been addicted to the use of stimulants.

Opium.—In twitchings of the facial muscles, distortion of the mouth, trismus, with irregular, difficult respiration, spasmodic trembling of the limbs, with foaming at the mouth, flushing of the face, unsteadiness of the eyes, quivering of the lips and facial muscles.

Stramonium is more especially called for in attacks of paralysis *succeeding* convulsions, when disturbances of the special senses and of the intellectual functions are present, or in those cases where paralysis and convulsions co-exist. *Hydrophobic convulsions* have been successfully treated with this remedy.

Some of the preceding remedies may be required during the treatment of the case, if long continued, and should be given according to the indications demanding their use.

Curare was introduced to the profession as a remedy for tetanus by Mr. Lloyd, of St. Bartholomew's Hospital, with considerable good results. Ghiesini* cured a case of traumatic tetanus by subcutaneous injection of curare—as much as forty-seven grains were injected in sixty single and thirty-two double and treble injections. The treatment was commenced on the fifth day, and the patient was convalescent on the seventeenth day.

* **Chloral hyd.**—This remedy has produced better and more satisfactory results than any other single remedy heretofore employed. Prof. Helmuth regards it as “a most valuable medicine,” and reports a severe case of trismus and *opisthotonos* mainly cured by its use. He gave the hydrate in ten-grain doses. It may also be employed hypodermically in five-grain doses.

Dr. Chapin, in the monthly abstract of Medical Science, presents a review of eighty cases of tetanus, and “concludes that chloral, administered by enema or draught, offers the best hope of saving the patient's life. Enemata are made by adding the solution of chloral to milk, into which the yolk of an egg has been stirred.”

Nerve Stretching.†—“Dr. Paul Vogt cured a case of traumatic tetanus supervening an injury to the right hand, completely and immediately by exposing the plexus at the anterior border of the trapezius, and vigorously pulling the nerves centripetally and centrifugally, and freely dividing nerve sheaths

* British Journal of Homœopathy, vol. xxi, p. 451.

† Helmuth's System of Surgery.

which were red." Prof. Helmuth has made this novel and brilliant operation several times of late, and in each case with the most beneficial results.

Warm baths are highly advocated in the treatment of this affection. The most unequivocal advantage follows general bathing and a thorough application of fomentations to the affected parts and to the spine.

After recovery begins to take place, the greatest care must be observed during convalescence lest a relapse occur and destroy the patient when he is apparently upon the very threshold of returning health. The clothing should be warm; the diet light but nutritious; the secretions preserved in as normal a condition as possible, and all exposures to atmospheric vicissitudes sedulously avoided.

CHAPTER III.

INJURIES AND DISEASES OF VEINS.

The changes and manifestations that take place within the veins and in certain cases where the lesion involves the arteries and veins conjointly, are matters of interest to the surgeon. The old term *phlebitis* has yielded to the modern appellation of *Thrombosis*, which Virchow describes as an "affection essentially consisting of a real coagulation of blood at a fixed point." The two terms, *thrombosis* and *embolism*, have been very largely misunderstood by the profession because of the confusion that previously surrounded them. Under the term *thrombosis*, therefore, I shall include the *coagulation of blood within the veins*, and *embolism the formation of clots within the arteries*.

Thrombosis is a local coagulation of blood with the formation of blood clots following an injury of a vein during the process of repair, or when the venous blood flow undergoes deterioration in its vital force, the circulation becoming languid and weak through unhygienic surroundings, errors in diet, the press-

ure of tumors and defective alimentation and nutrition. The clot may be carried along the channel of circulation and attaching itself at some weak spot in the wall of the vessel, disease of the vein may be caused nearer the cardiac centre; or it may insinuate itself in the opposite direction against the venous stream and becoming lodged at a point of bifurcation, may set up a genuine phlebitis. In a short time the clot becomes adherent to the vein wall and by the fibrinous deposits thrown out, it either finally occludes the vein entirely, or the fibrin extends along the continuous surface of the vein wall and permits the venous flow between the clot and the vein wall, just as surface strictures of the urethra are formed by the organization of plastic lymph upon the surface of the mucous urethral tissue.

When thrombosis increases to such an extent as to arrest the venous flow entirely, obliteration of the vein takes place followed by œdema, paleness of the surface, etc., when to this condition there are a *congeries* of veins affected with a state of inflammation superadded, there is said to be white swelling or milk leg, which softening and degenerating under the inflammatory process, a *puriform* condition is generated.

When thrombosis affects a limb, the symptoms at first are not very severe; the face becomes hot and flushed, the skin is dry and pungent with considerable stiffness; the veins on the surface are felt hard and corded, and the phenomena of inflammation are present to a greater or less degree. If, in connection with these symptoms, an injury or bruise has been inflicted, the diagnosis is simplified. The prognosis of thrombosis depends upon the size of the vein affected and the magnitude of the clot; nutrition will be effected accordingly as the circulation is interfered with; if a portion of the clot is washed away into the general circulation from time to time, symptoms of pyæmia will be developed.

Treatment.—*Acon.* in the first stage of the disease, with an increase of the disease, and threatening suppuration, *Hepar. sul.*, *Merc.*, *Cham.*, *Lyc.*, *Ham.*, *Lach.*, *Puls.*, *Phos.*, *Rhus rad.*, and *Sulph.*, are remedies of the first importance.

Varicose aneurism is a false or traumatic circumscribed aneurism associated with a varicose vein. Its symptoms are not unlike those of an aneurismal varix; in most cases the existence

of two distinct tumors can be recognized; the one superficial, fusiform and discolored, and hypertrophied, continuous with the venous trunk and emitting a vibratory sound; the other lying deeper, more clearly circumscribed, the walls becoming thicker as the tumor increases in size, and which yields a peculiar blowing or bellows sound (*bruit de soufflet*).

Treatment.—The same as recommended for aneurism, etc., vol. ii, p. 191.

Lesions of Veins like wounds of other structures are divided into the incised, lacerated and contused, punctured, transverse and longitudinal. The walls of veins being much thinner, their situation being more superficial and exposed than arteries, are more liable to injury than the latter.

The flow of blood from a vein may be easily distinguished from that of the artery, first, by the anatomy of the parts, the darker color of the blood, the continuous stream and by the actual inspection of the bleeding vessel if it be superficial. In injuries to the deeper seated vessels producing rupture of their coats with hemorrhage, it is a matter of some difficulty to determine the source of the blood flow. The small arterial twigs that have been divided by the course of the instrument toward the injured vein mingling with the venous flow will render it brighter colored. It must also be remembered that anæsthesia long continued changes the color of arterial blood, so that in many cases it can scarcely be distinguished by its color from venous hemorrhage. The blood flow from the distal end of a divided artery is considerably darker than the current which flows from the proximal end. As a rule, however, the source of the blood flow can be easily determined; in cases of doubt, compression of the main arterial trunk of the bleeding vessel at the cardiac side of the wound will furnish a sure diagnosis. If hemorrhage is controlled by the pressure, the source of the blood flow is from an artery; if it is increased the hemorrhage is venous. In amputation, especially in the region of the thigh and arm, it is not an unusual matter for the blood flow to continue after all the principal vessels are tied, sometimes, even, to an alarming extent from the cardiac ends of the divided veins; this hemorrhage immediately ceases after the removal of the tourniquet.

Veins when divided transversely, are closed by the contraction of their divided extremities, and by the formation of clots and subsequent cicatrization of their cut walls, in very much the same manner as occurs in arteries; but it has been observed that the contraction of the divided extremities of veins is much less complete than those of the arteries, and that the method of clot formation in veins is also less regular than in the case of arteries, though their complete occlusion and final cicatrization is more speedily accomplished than in arterial branches. In injuries affecting the smaller trunks, the closure may be somewhat hastened by elevating the limb, by application of cold water or by the various styptics or artificial hæmostatics, recommended on page 42.

An impression has long existed, which I believe has no foundation in fact, that the closure of a wounded vein by ligature is exceedingly prone to be followed by phlebitis. My own opinion is certainly averse to such a conclusion, and I am sure that during an extensive army practice, as well as that in civil life, I have tied scores of venous trunks, including some of the largest calibre without any serious results following, and I hold the principle to be erroneous in theory and not borne out by practice.

A punctured wound involving less than one-third of the circumference of a vein, may be safely occluded by a ligature, without tying the whole vessel.

Treatment.—For special indications of remedies and the various hæmostatics that are recommended in hemorrhage consult the chapter on Injuries and Diseases of Arteries, page 39.

Hæmorrhagic Diathesis.—The fact that some persons are more prone to hemorrhage than others is a matter of almost daily observation to the busy surgeon; this is due to hereditary influence, mercurialism or to a peculiar impressment of the system acquired by erroneous hygienic and dietetic influences. The systemic condition is similar to scurvy in many of its symptoms, the blood being thin and defibrinated, and the hemorrhage taking place from the most trivial cause. I have frequently pointed out this constitutional defect in patients before operative procedure, and if we investigate closely the history of these patients and the loss of blood produced by the most simple scratches or in-

juries, we shall be led into the very channel of information that unfolds this internal defect and which to the surgeon is so valuable to know *before* an operation of any great magnitude is undertaken. I agree with Prof. Helmuth and others, that a constitutional diathesis exists in all such patients, and that as a consequence there is weakness of the capillary vessels, with a loss of contractile power, caused, it may be, by a diminished quantity of plastic materials in the blood, but how to determine the fact before submitting the patient to operative procedures is a question yet to be determined. I have demonstrated in *four* well-marked cases of mercurial cachexy that this hemorrhagic diathesis existed, and foretold the effect of operation which occurred just as predicted. I well remember an operation upon a mercurio-syphilitic patient (a drover), upon whom I operated for necrosis of the femur, where the blood flow was so alarming before and after the removal of the tourniquet, that I feared the worst results, although I employed the best hæmostatics known to surgery. The stream was continuous, dark-colored, and seemed to well up from every muscular and connective fibre divided, and it was sometime before I finally succeeded in checking it. There was not a single vessel divided larger than a knitting needle, yet on the seventh day the hemorrhage returned, and fearing the effect would be serious, a consultation was held and amputation in the upper third of the thigh was performed. The blood flow was alarming, although I used Esmarch's roller, and on the eleventh day secondary hemorrhage again took place from the femoral artery, which necessitated its ligation two inches above its previous division. With all the care and attention I gave this patient it was with the utmost difficulty that I saved his life. Five months after the first operation, he finally left the hospital cured, his system even then not rallying to the point I had hoped for.

Three other cases, where the operations were of lesser magnitude, the same hemorrhagic diathesis existed, and in each case unmistakable evidences of mercurialism existed. I have a lady under my charge at present, making the fifth case, where the same hemorrhagic diathesis exists, and attributed to the same cause. No operation being demanded in the latter patient, I

am not permitted to verify my conclusion in this case, viz.: that mercurial cachexy predisposes to hemorrhage. In the other cases the diathesis and the predisposition to bleeding from the most trifling causes, support the principle I have observed and which I believe to be correct.

Treatment.—In all the cases mentioned I have succeeded largely in overcoming the broken down forces and establishing a more perfect and more uniform health by the use of the following remedies, viz.: *Nitric acid, Kali iod., Phytol., Iodium, Ars., Phos., Ferrum., Corydal., Calc. phos., Sec., Silic., and Sulph.* The remedies should be selected not only with a view to systemic impairment, but it should include such abnormal manifestations as are most frequent and important.

Entrance of Air into Veins.—This is one of the dreaded results that threaten in those major operations, especially about the neck and upper part of the chest. Few surgeons of large practice have escaped this accident. The local signs which indicate the admission of air into large veins are a sucking, purling and piping sound, with bubbles of air escaping from the wound: a peculiar gurgling sound, resembling, as Prof. Hamilton describes it, “the sound produced by pouring water from a bottle,” occurred in his own case; his patient did not die.

The constitutional effects are a tumultuous and heaving action of the heart, with great prostration; the respirations are embarrassed; the countenance is expressive of great anxiety and fear, and the movements of the heart become suddenly feeble and almost imperceptible. “The hand placed over the heart,” says Gant, “perceives a peculiar bubbling, thrilling, rasping sensation, produced by the air and blood being whipped together within the ventricle.” Mr. Hamilton says that “under the ear there may be observed also, sometimes, a churning noise synchronous with the ventricular systole.” If there is only a small quantity of air admitted, the patient may recover, but if the quantity is considerable, a condition resembling syncope is produced and the patient dies during a convulsive struggle.

Great care should be exercised in all important operations in the neck and subclavian regions, and an assistant should guard well these doors of death when opened during operative proced-

ure, by keeping up uniform pressure upon the cardiac side of the wound.

Phlebitis.—The inflammation to which veins are liable is either of the *circumscribed* or *diffuse* variety. Contusions, lacerations, incisions, and punctures are the most frequent causes of the disease. All injuries and lesions of the vein walls are liable to be followed by inflammation (traumatic).

Phlebitis may also occur as an idiopathic affection, as from exposure to cold, sequelæ of fevers, or a condition of varicose, and usually occurs in the lower extremities.

In the circumscribed variety, the inflammation may be either of the adhesive or of the suppurative kind. When diffuse it partakes of an erysipelatous character. Phlebitis may occur idiopathically or may be the consequence of injuries in those who are of impaired health. Externally the veins appear red and swollen. Lymph is effused on the internal vein wall and the blood participates in the morbid process by becoming coagulated, which results in the final plugging up of the venous trunk. In this case adhesion takes place and the inflammation begins to subside, by this process of repair. Sometimes it terminates in suppuration; the lymph and coagulum form a boundary wall, thus preventing the pus from entering into the current of circulation. Phlegmasia dolens, (milk leg) peculiar to nursing women, is an inflammation similar to phlebitis. When the inflammation is of the diffuse or erysipelatous variety, this boundary wall is not formed on account of the unhealthy and poisonous character of the exudation, and purulent infection is the result, with an adynamic state of the system, low, typhoid fever, a brown and dry tongue, fluttering pulse, loss of appetite, nausea and diarrhœa, all the symptoms resembling pyæmia or surgical fever. It occurs in persons whose constitutions have been broken by preexisting or hereditary causes, and there is produced the lowest and most fatal form of ataxic fever.

Epitome of Treatment.—For acute phlebitis give *Acon.*, *Bell.*, *Lach.*, *Puls.* For suppurative phlebitis, *Hepar s.*, *Merc. sol.*, *Sil.*, and *Sulph.* Erysipelatous phlebitis, with symptoms of typhoid, *Ars.*, *Bap.*, *Acid. mur.*, *Carbo veg.*, and *Hyos.* In chronic disease of the veins, *Bell.*, *Cham.*, *Arn.*, *Ham.*, *Phos.*, *Puls.*, *Lyc.*, *Nux vom.*, *Spig.* and *Zinc.*

Special Indications.—*Ac.*—Hot, dry skin; full, bounding pulse; rigors; dry, fur-red tongue; great thirst and parched mouth.

Bell.—Congestion of the head and face; red face; throbbing headache; brilliant, staring eyes; dilatation of pupils; intense dark redness of the parts involved.

Arsen.—Extreme prostration, dry, brown and cracked tongue; burning thirst, and hot, dry skin.

Carbo. veg.—Venous congestion, with a blue tinge of skin over the whole body, fearful anguish about the heart, and icy coldness of the surface.

Hamam.—Thickness of the veins, with a cord-like feeling; pain along the course of the vein; sub-acute inflammation of veins; swelling of adjoining parts; whitish appearance of the skin; a varicose condition of the veins, with oedema, *Apis*.

Puls.—After the violence of the inflammation has been moderated by *Ac.* or *Bell.*; fever symptoms not severe; particularly suited to females with menstrual irregularities; leucorrhœa, etc.

Hepar s.—Fetid discharge from abscess and purulent infiltration.

Merc. sol.—Thick, flaky pus, or thin, sanious discharge.

Lyc.—Purulent infiltration into the lungs, with expectoration of pus.

Nux vom.—When phlebitis is the result of high living, with constipation and hemorrhoids.

Local Treatment is rest, hot medicated fomentations of *Ac.*, *Ham.* or *Bell.*, according to indications. In acute cases the diet should be light and nutritious, but when suppuration ensues the system demands support and a generous diet.

CHAPTER IV.

DISEASES OF BONES.

Hypertrophy of Bone consists in an increase of its volume, similar to what occurs in the soft structures, the changes usually being due to inflammatory action. It often appears gradually, without pain or other characteristics of inflammation. The bone is sometimes not only enlarged in its circumference, but in its length, its structure becoming dense, the spongy portion being wholly obliterated with augmentation of its weight.

Treatment.—To effect a cure the cause of the affection must be removed. Due attention must be given to the dietetic and hygienic condition of the patient, and the remedies should be those of medium potencies. The temperament of the patient, the disposition, the character of antecedent diseases, are to be considered in the selection of the remedy. The most appropriate are: *Calc. carb. et phos.*, *Assafet.*, *Aur.*, *Caut.*, *Kali iod.*, *Lyc.*, *Mez.*, *Phos. ac.*, *Merc.*, *Bar.*, *Sil.*, and *Sulph.* The remedy to be selected according to indications.

Atrophy of Bone consists in the partial absorption of its ele-

mentary constituents, and may occur through continued pressure, deficient nervous influence, insufficient supply of blood, or protracted disease of the part.

In *senile atrophy* the bone becomes exceedingly brittle, with diminution of strength; the animal matter is partially absorbed; the cancellous structure is rarified and many of the vessels wholly obliterated. The neck of the femur is most liable of all bones to this change, this renders old persons particularly prone to fracture of this portion of the bone from slight causes.

Treatment.—This condition does not admit of cure. The general health is to be promoted, and any local cause, when found to exist, should be removed. The chief remedies to be consulted in this affection are: *Calc.*, *Symph.*, *Sil.*, and *Sulph.*

Ostitis.—This is an inflammation of the bony structures, and it may be either *acute* or *chronic*. The acute is more or less diffuse and its favorite seats are the shafts of the long bones. When it extends to the medullary cavity it runs rapidly throughout the whole length of the canal, and it occurs more frequently in children of a scrofulous constitution, whose systems are impaired from want of the necessaries of life. It may be caused, moreover, by exposure to cold and damp.

Diagnosis.—The attack is ushered in by rigors and a high degree of fever, accompanied by deep-seated boring, burning, and throbbing pains in the limb; rapid swelling and œdema, with an erysipelatous blush on the surface, quickly terminating in abscess or caries, with matter pointing at various points, and high fever recurring at night. If the patient recover from the immediate violence of the attack, caries is very prone to occur along the shaft of the bone, and inflammation extending along the medullary canal is very apt to affect the ends of the bones as well as the shaft. Occasionally small *abscesses* form in the bone which contain pus mixed with the debris of the osseous structure. Their most frequent situation is in the cancellous structure at the ends of the tibia. The part swells slightly, is thickened and a deep seated pain is felt; aching, oppressive and intermittent, aggravated by pressure, and worse at night. The patient can place his finger upon the spot where all this disturbance exists. It can generally be traced to an injury.

Treatment.—The appropriate remedies for this and other diseases of the bones to which I will refer in course, will be found at the end of this chapter. For the *acute* variety: *Acon.*, *Bell.*, *Ars.*, *Mez.*, *Merc.*, *Ruta.*, and *Staph.* For the *chronic*: *Asa.*, *Lyc.*, *Nit. ac.*, *Phos.*, *Sil.*, *Hecla*, *Sulph.*, and *Therid.*

Caries is described by most authors as the molecular death, and disintegration of bone; the bone tissue is soft and vascular, nutrition is either wholly lost or seriously impaired, and as a result of previous inflammation, (ostitis) there is disintegration of the bone structure, ulceration and discharge of bone elements, mingled with pus. It is the *true* inflammation of the third stage of my classification, and is governed by the same principles, runs the same course, and terminates in the same manner as inflammation of the soft parts, viz., by disorganization and finally disintegration. It corresponds to the *neuro-reparative* variety of inflammation, and is a solution of continuity of bone structure, dependent upon molecular death and occurring upon the surface of bone or within its structure. It holds the same relation to necrosis of bone that gangrene holds to mortification, or ulceration holds to sphacelus. When caries takes place within the bone, or in the cancellated structure, it is called *abscess*. The early symptoms of caries are much the same as abscess, and both are preceded with pain, tenderness, redness and swelling, all the phenomena of inflammation being present. The complications following caries are much the same as those which attend the result of inflammation in the soft structures; the tissues are thickened; the skin glazed and of a dusky red; while here and there sinuses are formed which discharge a thin, unhealthy pus, and are ordinarily surrounded by coarse granulations.

Treatment.—In strumous, cachetic, or syphilitic constitutions, or in those of impaired habits, attention should be given to their removal by appropriate means. These consist of change of air, light nutritious food, regular exercise, warm clothing, etc. For the remedies applicable to meet the diseased condition, see special indications at the end of this chapter.

Necrosis is the destruction of bone in mass, and corresponds to the term slough, or sphacelus, in the soft tissues. It affects, chiefly, the hard structure of bone and their shafts, rather than

their articular extremities. It is often produced by injury, and is prone to follow osteitis, and sometimes results from a severe attack of periostitis. Those who are employed in the manufacture of lucifer matches, are exceedingly liable to necrosis of the jaw from inhalation of the fumes of phosphorus.

Exfoliation is applied to that form of necrosis where the surface shell or scale is separated from the adjacent bone; and the term *Sequestrum* when a portion of the deeper structure is thrown off as the result of inflammatory action.

Necrosis, therefore, is preceded by the inflammatory process, viz., pain, tenderness, swelling, œdema and suppuration; the vitality of the bone structure is destroyed by the severity of the attack, and as a consequence, first, caries is developed, then final separation of the dead bone by disintegration and absorption, forming the line of demarcation between the living and the dead structure—necrosis. Until this necrosed portion is removed from the soft structures where it lies, it is a continual source of irritation, like any other foreign body deposited within the tissues, and in its turn keeps up an inflammatory action in all the tissues with which it comes in contact. As soon as the dead bone is separated from the living, the process of repair goes on; granulations are thrown out and the exfoliated bone is pushed away. This is nature's method in overcoming the difficulty, but it sometimes happens that the sequestrum is too large to be removed in this way, then it is that the new bone throws a wall of ossific structure around it, and envelopes it in a sheath which may take months and perhaps years before it is entirely disposed of. If the suppuration is excessive the system suffers correspondingly, and the patient may die if not relieved by a surgical operation before the offending mass is finally removed.

Treatment.—The first thing to be done is to remove the offending cause just as soon as the work of separation is completed, if it be superficial; but if deep seated, it then becomes a matter of more serious import. In such a case attention should be given to the removal of all predisposing causes; the system improved and strengthened by the best directed efforts, the limb placed in a horizontal position, the sinuses opened, and medicated lotions constantly employed. Then select the appropriate remedy as pointed out under special indications.

Special Indications.—**Angustura.**—Caries, or very painful ulcers, which affect the bones and pierce them to the marrow, crumbling of pieces of bone.

Asafoetida.—Inflammation and caries of the bones, with thin, fetid pus; bluish redness and swelling of the parts; ulcers with high, hard edges; sensitive to touch; easily bleeding; soft enlargement of bones; also curvature; caries after abuse of mercury; drawing pains in the jaws, and copious salivation.

Aurum.—Secondary syphilis; abuse of mercury, with looseness of the teeth, ulcers of the gums, fetid breath, and heat in the head; osteitis and caries, especially of the palate and nasal bones; ozæna, with excessively fetid discharge; swelling of periosteum of forearms and thighs; exostosis of skull and other bones; boring in the bones; awakened at night by bone pains, which are so severe that he does not want to live.

Belladonna.—Curvature of the lumbar vertebrae; exostosis in the forehead, with caries of the palate; red, shining swelling of the joints; pains along the periosteum.

Calcarea carb.—Curvature of the spine and long bones; crackling and crepitation in the joints, as if they were dry; swelling and softening of the bones, with curvature; exostosis and caries of the extremities, necrosis; caries of the teeth of children; toothache increased by draft or cold; *rachitis*.

Calcarea phosph.—Fistulous ulcers on the ankles; edges callous; ichor putrid.

Calcarea fluorica.—Osteosarcoma; nodes and hard bone swellings.

Carbo animalis.—*Gummalæ*; benignant suppurations change into ichorous ones; scurvy; rending, tearing pains, caused by salt food, with bleeding of gums and looseness of teeth, the teeth being very sensitive to the least cold.

China.—Carbonaceous caries, commencing with a black spot; most observed in psoric persons, with profuse suppuration and profuse sweat; humid gangrene; parts turn black.

Dulcamara.—Exostosis with ulcers on arms, in consequence of suppressed itch; exostosis on upper part of right tibia, with bluish-red spots; suppurating lumps.

Euphorbium.—Caries and diseases of bones; burning in bones.

Fluoric acid.—Diseases of the bones, particularly of the long bones; caries and necrosis especially when they are of a psoric or syphilitic nature.

Gotysburg.—Ulceration of joints involving the bones, with thin, ichorous discharge (sil.)

Hecla lava.—Ostitis; periostitis; exostosis; osteosarcoma; rachitis. It affects mostly the bones of the head, jaws, teeth and legs. Difficulty of dentition.

Lactic acid.—Chronic ostitis; exostosis, especially of the thighs; chicken breast.

Lycopodium.—Arthritic nodosities; softening of the bones; caries and fistulous ulcers, with hard, red, shining, everted edges, and inflammatory swelling of the affected parts, bleeding easily; nocturnal bone pains, especially at the end of the inflamed bones.

Mercurius.—Bone disease; worse at night; the bones feel as if they were broken; scrofulous periostitis; coxarthrocace; caries; nodes; ulcerations of bones; osteocopic pains.

Mezerium.—Pain in the periosteum of the long bones, especially the tibia; worse at night in bed, and in damp weather, when the least touch is unbearable; one side is more affected than the other. Rapid decay of the teeth. Scrofulosis and syphilis.

Nitric acid.—Secondary syphilis; carious ulcers, with irregular edges; exuberant granulations, stinging pains, and easily bleeding; carious teeth, loose and ready to fall out; gums easily bleeding.

Oleum jecoris.—All kinds of scrofulous diseases of the bones, arthrocace, spina ventosa, caries, etc.; fistulous ulcers, with raised edges, easily bleeding, and discharging fetid ichor.

Phosphorus.—Exostosis, especially of the skull, with tearing, boring pains, worse at night; swelling of the tibia; disease of the hip joint, oozing out a watery pus; swelling of the clavicle.

Phos. acid.—Caries of scorbutic patients; pains worse after cold or hot, after external injury of the periosteum there remains a feeling as if the bones were scraped with a knife; interstitial osteitis, scrofulous, syphilitic or mercurial; periosteal inflammation, with burning gnawing pains; external parts turn black.

Phytolacca.—Syphilitic bone diseases; ulcers, with lardaceous bottoms, and with an appearance as if punched out.

Ruta.—Bruised sensation in hip bones, back and coccyx; bruises and other mechanical injuries of bones and periosteum; periostitis, with erysipelatous inflammation of external parts.

Silicea.—Indicated in nearly all diseases of the bones; fistulous openings; discharge offensive; parts around hard and swollen, bluish-red; fibrous parts of joints, especially of the knees, inflamed, all excretions offensive; pus thin; sweat of feet, etc.

Staphisagria.—Podarthrocace; ostitis, especially of the phalanges of the fingers, arthritic nodosities on the joints.

Stillingia.—Scrofulous periostitis.

Sulphur.—Scrofulous and rickety complaints; curvature, softening swelling caries and other bone diseases.

Theridiou.—Scrofula, when other remedies fail, rachitis, caries; necrosis; to reach the root of the evil and destroy cause.

Epitome of Treatment.—For interstitial distension of bones:

Asa., Lyc., Merc., Sil., Staph., Calc., Mez., Phos. ac., Sulph.

For necrosis: *Asa., Calc., Sil., Phos., Sec.*

For ostitis: *Mer., Mez., Sil., Staph., Sulph., Nit., and Phos. ac.*

For softening: *Calc., Merc., Sil., Sulph., Hep., Mez., Phos., Ruta., Sep., Staph.*

For swelling: *Asa., Calc., Lyc., Merc., Phos. ac., Puls., Sil., Staph., Sulph., Guai., Ruta.*

For caries: *Asa., Calc., Merc., Phos. ac., Sil., Aur., Fluor. ac., Mez., Nitr. ac., Ruta., Staph.*

For fracture to promote the reunion of bones: *Calc., Sil., Symphytum.*

For curvatures: *Asa., Calc., Lyc., Merc., Puls., Rhus., Sil., Sulph., Bell., Hep., Nitr. ac., Phos.*

For mercurial: *Aurum, Fluor. ac., Kali jod., Phos. ac., Staph., Nitric. ac.*

For syphilitic: *Aur., Fluor. ac., Kali jod., Merc. cyan., bijod., cor., and sol., Phos. ac., Phytol.*

Periostitis is an inflammation the investing membrane of the bone and may be either *acute* or *chronic*. It is often produced by exposure to wet and cold, or by external violence, and not unfrequently by an impure state of the blood arising from rheumatism, scrofula or syphilis. The bone lying in close proximity to the periosteum is involved, more or less, in the inflammation, inducing peripheral ostitis.

Symptoms.—*Acute periostitis* begins with pain in the course of the bone, which is greatly increased by pressure. In its early stages, it is oftentimes difficult to distinguish between it and inflammation of the bone itself. After pain is fully developed the part becomes hot and swollen and thickened, having a circumscribed firm and resisting feel, seldom attaining any size; the skin around becomes red and œdematous. In the course of two or three days suppuration ensues, and the periosteum becomes detached from the subjacent bone. Fever, great restlessness, insomnia, and other evidences of constitutional irritation are present.

Chronic periostitis is less rapid in its course, the tendency of the inflammation being rather to the production and organization of fibrin than suppuration; a flat, hard, circumscribed tumor forms a node which is a deposit of plastic material in the perios-

teum or neighboring parts. There is great pain, especially at night, and the disease is generally referred to syphilitic origin. See syphilitic node, page 107.

Treatment.—The constitutional treatment of acute periostitis is the same as in inflammation elsewhere in fibrous tissues. The local consists in rest position, medicated fomentations, and incisions if the symptoms are very aggravated and do not yield to remedial measures. The following are the remedies to be consulted: *Acon.*, *Aur.*, *Mez.*, *Merc.*, *Phy.*, *Rhod.*, *Staph.*, etc. See special indications at the end of this chapter.

Mollities Ossium—osteomalacia—is a peculiar disease which seems to depend upon a want of the earthy constituents of bone, with degeneration of animal tissue. The bones are soft, fragile, and brittle, and are often distorted into shapes that cause great inconvenience and distress. It is a rare disease, occurs more often in women than in men, and is particularly associated with the child bearing period. Unlike rickets it occurs in adult life, and when once developed it continues to grow worse. It may be confined to a few bones or it may affect the entire skeleton. The urine is ordinarily loaded with phosphates, which are eliminated from the bony structure and excreted by the kidneys. At the outset of the disease the patient is observed to be ailing, emaciates, complains of violent aching in the bones, with feebleness and great prostrations. Then from a fall or some slight injury, a bone is broken, and perhaps it unites again, and this condition goes on until the patient becomes bed-ridden; now great distortion takes place and death occurs from exhaustion or compression of the lungs. Its cause has been assigned to cancer, but, I think, without reason.

Treatment.—The treatment consists in giving attention to constitutional defects, and the restoration of the vital forces; a generous diet, well regulated hygienic and dietetic regimen, and all muscular exertion to be avoided, constitute the principal constitutional means to be employed. Little, so far, has been accomplished by medicines; those most suitable to the disease are; *Merc.*, *Kali iod.*, *Phos. ac.*, *Staph.*, *Calc.*, *Lyc.*, *Brucea*, *Sil.*, **Lact. ac.*, *Pinus syl.*, and *Ferrum*.

* Experiments with this remedy show its influence over bony structure. Giving the drug to a healthy animal for a long time has given rise to many conditions of rachitis and osteomalacia.

The local treatment consists of mechanical supports, having them light and strong. Little permanent good, however, so far, has been effected in this disease by internal medication.

Rachitis is a disease of the bones dependent upon a constitutional disorder allied to scrofula. It is an affection of early life, and generally shows itself about the period when children begin to walk. The natural curves of the bones are increased, the shafts do not lengthen proportionately, and the extremities become enlarged. Its characteristics are most apparent in the lower limbs that have the weight of the body to sustain; the spine and pelvis are also interested in the disease; the legs are short, thick, and bent forwards and outwards; the pelvis is compressed and deformed, the spine shows evidence of lateral curvature, and the cranial bones become expanded with an undue prominence of the forehead. There is a deficiency of the earthy salts, and at the same time there is an expansion of the cancellated structure. Local treatment is rest in the recumbent position, out-door exercise in a carriage or on horseback, and if the spine is affected, the plaster jacket or light mechanical support should be worn.

Spina Bifida is a congested malformation wherein the spinal processes of the vertebræ are deficient, leaving the laminae open, which permits expansion of the coverings of the cord, and a tumor is formed by the pressure of the cerebro-spinal fluid. It occurs at the lower part of the spine in the lumbar and sacral vertebræ. It is an elastic, fluctuating tumor while patient is erect, formed in the mesial line of the body, and is about the size of an orange. When the patient lies down it becomes soft and lax. The skin covering it is usually congested and blue. If left unattended to, it may ulcerate and burst, placing the life of the patient in great jeopardy; under other circumstances it seems to give little or no annoyance, and the patient grows up to manhood without any serious result.

Treatment consists in making equable pressure upon the tumor by means of a concave pad. Puncturing the sac with the aspirator needle and drawing off the contents of the sac gradually from time to time, and applying pressure as before advised. Dr. Morton, of Glasgow, recommends tapping the tumor and

throwing therein a solution of iodine. Brainard's injection, which has proved the most successful, is composed of five grains of iodine, fifteen of iodide of potassium, and one ounce of water. Removal by the ecraseur has been tried but has failed. Mouchet has been tolerably successful by applying the elastic ligature to the base of the tumor, and then puncturing the sac. Helmuth rather favors the injection process of Brainard, but as a rule these processes are unsuccessful, and the little sufferers die of convulsions. No internal treatment has effected any marked good results. The remedies best adapted to control the morbid process involving the bony structure in the last named diseases, are the following, viz.: *Asa.*, *Brucea.*, *Ant.*, *Baryt. c.*, *Bell.*, *Calc. carb. et phos.*, *Fluoric ac.*, *Kali iod.*, *Lyc.*, *Lactic ac.*, *Mez.*, *Phos. ac.*, *Ruta*, *Sil.*, *Staph.*, *Sulph.*, and *Therid.*

Special Indications—**Assafoet.**—Soft enlargement and curvature of bones; scrofulous, bloated children with enlargement of glands.

Baryt. c.—Imperfect development; child dwarfed mentally and physically; glands indurated; abdomen hard and distended; face puffed; general emaciation.

Brucea ant.—The feet are turned outwards, and children walk on their inner ankles (*Talipes valgus*).

Calc. c.—Fontanels are late closing, dentition late, walking delayed; abdomen bloated and enlarged; extremities deformed, child is bow-legged, curvature of spine.

Calc. p.—Skull soft and thin, with crackling noise when pressed upon; delayed closure of fontanels; sallow, earthy complexion; face pimpled; retarded dentition; emaciation; lateral curvature (left); swollen condyles on forearms and legs; spina bifida; non-union of broken bones; Pott's disease; sytemic dyscrasias.

Fluoric ac.—Disease of long bones; weakly constitution; sallow complexion; emaciation; bony tumors on the ends of the long bones; exostosis; youthful dyscrasias.

Kali hyd.—Swelling of the bones; exostosis; decaying teeth; tearing, darting pains in all the limbs; great emaciation; rachitis.

Lycop.—Glandular swellings; softening of bones; osteocopic pains; swelling of the ends of the long bones; emaciation.

Mezer.—Bones inflamed and swollen; joints painful and weary, as if they would give way; caries; mercurialism; diseases of youth.

Pinus syl.—Scrofulous affections; slowness to acquire the use of limbs; weakness of bones.

Phos. ac.—Pale, sickly look, great debility, tottering gait; interstitial ostitis; exostosis.

Ruta.—Painful joints; contraction of tendons; periostitis; open fontanels; bones infected; or bruised.

Silic.—Head too large for body; emaciation with pale face; ulceration and necrosis of bones; cellular inflammations; enchondroma; deep-seated pains in bones and joints (ostitis); loss of power in limbs; spinal curvature; Pott's disease; ulcerations and necrosis of bones; bone felons; exostosis. Hecla lava follows well this remedy.

Staph.—Black, crumbling teeth; caries of teeth; painful swelling in bones; suppuration of bones; ostitis; arthritic nodosities on joints.

Sulph.—Fontanels close late; pale, sickly looking face; curvature of spine; softened vertebrae; Pott's disease; for youthful dyscrasias.

Therid.—Scrofulous affection of bones, when all other remedies fail; spinal diseases; arthritis; caries; necrosis; diseases of youth. It destroys the disease generating cause.

Sub-cutaneous Osteotomy.—Mr. Bradley divides the integument with a tenotome, and cuts through the bone with a very fine saw, then straightens the limb, putting them in light appropriate splints, and covering the wound with collodion. *Dr. Bæckel cuts down to the periosteum, peels it off and divides the

* Abstract of Medical Science, vol. iii, No. 7.

bone with a hammer and chisel, dresses the wound after Lister's method, and straightens the bones after cicatrization. In this way he has operated nine times successfully.

In all cases of softening of bones, attention should be given to the articles of food used; those containing larger proportions of lime, phosphorus, and other constituents of bone are to be preferred. The use of cereals, wheat, rye, oats and corn, are of the greatest advantage. Gentle exercise in the open air, with the best directed hygienic and dietetic influences should occupy no small portion of the treatment.

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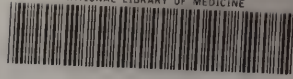
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